DOCUMENT RESUME

ED 101 479 95 EA 006 764

TITLE	Financing the Public Schools of South Dakota.
INSTITUTION	National Educational Finance Project, Gainsville, Fla.
SPONS AGENCY	South Dakota State Div. of Elementary and Secondary Education, Pierre.
PUB DATE	73
NOTE	244p.; Related documents are ED 083 713 and ED 091 805
EDRS PRICE	MF-$0.76 HC-$12.05 PLUS POSTAGE
DESCRIPTORS	Capital Outlay (for Fixed Assets); *Educational Finance; Educational Needs; Educational Programs; Elementary Secondary Education; *Finance Reform; Fiscal Capacity; *Program Costs; Resource Allocations; School Construction; School Organization; *School Support; *State Aid; Student Transportation; Tax Effort; Teacher Welfare
IDENTIFIERS	*South Dakota

ABSTRACT

This is the fourth of a series of comprehensive State school financing studies conducted by the National Educational Finance Project. The report provides a summary of study findings and recommendations, a brief overview of the existing State school support program in South Dakota, a complete report and summary of the findings of each of seven special studies, and recommendations for improving the South Dakota State school finance program. Special studies included in the report include a study and analysis of the sparsity factor in the apportionment of South Dakota State school support funds, an examination of the economic status of teaching personnel, a comparison of fiscal ability and fiscal effort among districts, cost indices for educational programs in South Dakota, an analysis of school district organization, an examination of the financing of public school construction, and an analysis and assessment of South Dakota's public transportation program. (Author/DN)

ED101479

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

FINANCING THE PUBLIC SCHOOLS OF SOUTH DAKOTA

A Study Made by

THE NATIONAL EDUCATIONAL

FINANCE PROJECT

for

THE SOUTH DAKOTA DIVISION OF

ELEMENTARY AND SECONDARY EDUCATION

Kern Alexander, Project Director

K. Forbis Jordan, Director of Research

1973

EA 006 764

TABLE OF CONTENTS

	Page
Preface	iii
SUMMARY OF FINDINGS AND RECOMMENDATIONS	v
1. Educational Needs and Programs	vi
2. Combining State and Local Resources to Fund the Program	ix
3. Teachers' Salaries and Fringe Benefits	xii
4. School District Organization	xiv
5. Capital Outlay and Debt Service	xvii
6. Pupil Transportation Program	xx
SPECIAL STUDIES	1
1. Fiscal Ability and Fiscal Effort	1
2. A Study and Analysis of the Sparsity Factor in the Apportionment of South Dakota State School Support Funds	54
3. The Economic Status of Teaching Personnel	82
4. Cost Indices for Educational Programs in South Dakota	121
5. School District Reorganization	139
6. Financing Public School Construction	155
7. An Analysis and Assessment of South Dakota's Pupil Transportation Program	181

PREFACE

This is the fourth of a series of comprehensive state school financing studies conducted by the National Educational Finance Project. Funding and sponsorship for the study was provided jointly by the South Dakota Division of Elementary and Secondary Education and the National Educational Finance Project which is financed by a grant from the Department of Health, Education and Welfare, United States Office of Education. As a follow-up to its national study of state school finance programs during the period 1968-72, the National Educational Finance Project became involved in a series of state studies through dissemination of the national research findings and the further development of prototype research processes which individual states could use in studying and planning improvements in their state school finance programs.

The South Dakota study was a cooperative project involving members of the central staff of the National Educational Finance Project and the following researchers who made special studies to supplement the research of the central staff:

Fiscal Ability and Fiscal Effort - Don C. Patton
Ball State University

The Sparsity Factor in the Apportionment of State School Support Funds - James Rose
University of Colorado

The Economic Status of Teaching Personnel - James Hale
University of New Mexico

Cost Indices for Educational Programs - Richard A. Rossmiller
University of Wisconsin - Madison

School District Reorganization - Dean F. Berkley
Indiana University

Financing School Construction - C. Cale Hudson
University of Nebraska

Pupil Transportation Program - Lloyd E. Frohreich
University of Wisconsin - Madison

Members of the research team wish to express their appreciation to local school districts and superintendents and their staffs and also to members of the South Dakota Division of Elementary and Secondary Education for their assistance in providing statistical data and related information necessary for the study. Special recognition is accorded to Dr. Donald Barnhart and members of his immediate staff for their assistance.

Kern Alexander
K. Forbis Jordan

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Throughout the nation educators, legislative policy makers, and general citizens are expressing interest in various phases of the school finance reform movement. The initial impetus can be traced to a variety of sources--state and federal court cases concerned with the inequities in the present system, taxpayer resistance to the property tax, a general movement toward greater accountability in the educational enterprise, concern over the general level of support being provided for education in districts within states, and the quest for higher levels of equalization. The humanitarian goal is to assure that each child in the state has access to an adequate level of funding for his education. South Dakota is not unique in its recognition of the need to study its system for funding elementary and secondary schools; over one-half of the states have been involved in some type of study of their state school support program within the last two years.

South Dakota's general educational picture suggests that positive steps should be taken to assure that each child in the state is provided with an adequate educational program. Sharp differences can be found in the level of funding provided for pupils attending schools in different school districts. Even though the state has made considerable progress in school district reorganization within the past few years, many small and inadequate school districts are still operating within the state. The funding of school transportation needs significant revisions to assure that adequate programs can be provided without undue hardships accruing to districts with high numbers of transported pupils. Even though the state's enrollment may not be growing, the need still exists for new and replacement school facilities, but South Dakota does not recognize this need in the allocation of state funds. When compared with the national average or the position of adjacent states, South Dakota obviously must invest more funds in public elementary and secondary education to assure that each district has sufficient funds to provide an adequate educational program.

The following summary includes: (1) a brief overview of the existing state school support program in South Dakota, (2) a summary of the findings of each of the special studies, and (3) recommendations for improving the South Dakota state school finance program. The complete report of each special study is contained in later sections of this document.

Educational Needs and Programs

Recent major studies of school finance acknowledge that equalization of educational opportunity has two important aspects: (1) the equalization of fiscal resources, and (2) the equalization of educational programs based on the varying educational needs among children. Cost accounting studies reveal that some programs do in fact cost much more than others when compared to the basic or the regular educational programs.

The present study of South Dakota indicates that, among selected school districts, 13 percent more was expended on secondary school pupils per full time equivalent than on elementary pupils. It was also found that special education programs in elementary schools cost an average of 2.55 times the regular educational program. Within the overall special education program the cost differential for physically handicapped at the elementary level was 3.94, while the differential of programs for the emotionally disturbed was 3.36 and 3.96 at the elementary and secondary levels, respectively.

Where the incidence rates of children with special educational needs are uniform there is, of course, no need for the state to take high cost programs into account. A simple minimum dollar allocation is sufficient to place the state money in a proper appropriation pattern. However, the evidence presented by the National Educational Finance Project indicates that the incidence of educational needs among various populations of children is not constant, and therefore some school districts are forced to either ignore the special high cost needs or to provide these special programs only at the expense of other children.

A better policy is for the state to assume the responsibility of identifying and funding special programs which have variations in incidence of children and have documented high differential costs. Programs which fall into this category are early childhood, vocational and technical, education for the handicapped, high school programs, and special remedial programs generally resulting from cultural deprivation.

Recommendations

The following recommendations assume that the State of South Dakota views the education of every child within its borders as a responsibility of all people of the state. Funding education should not be viewed as merely a local problem, the solution to which must be found by the individual school district alone.

1. The state school aid formula should recognize the definable high cost educational programs which are designed to meet special educational needs. Allocation entitlements should be based on the relative cost differentials between the special programs and the basic or regular program.

2. The method of allocation should be based on a weighted pupil or pupil-cost unit method. This entails either the use of full-time

equivalent (FTE) pupils or number of participating pupils in average daily membership. The FTE is the most precise and therefore the preferred method of calculating the state allotments. A FTE student for program purposes is a full-time student in average daily membership or a combination of full-time and part-time students in any one or more of the programs designated by law as special high cost programs. The pupil-cost unit method of allocation has several advantages over the present method.

a. The pupil-cost unit allocates funds as a uniform allocation based on educational needs and costs.

b. The pupil-cost unit establishes a total program with interrelated components, each supplemental to and dependent on the other. A definite fiscal relationship exists between the basic educational unit costs and each of the special high cost units.

c. The pupil-cost unit differentials are derived from actual cost analysis of educational programs in South Dakota and other states. The weightings represent objective and uniform application of research findings to funding practice.

d. The pupil-cost unit approach defines more precisely the educational needs of a local school district than the classroom unit measurement and the district size factor. Allocations are more efficient because a uniform efficiency level is created among all school districts. Variations in allocation are based on educational need rather than on level of expenditure variations in wealth, or other variables extraneous to the educational program.

e. The pupil-cost unit approach creates a fiscal and information structure whereby allocation, program costs, and pupil costs and products are all related and subject to evaluation.

3. The recommended formula for determination of the foundation level of support is as follows:

Number of Pupil Units (FTE) x Cost Differential x Dollars = Total Cost of Program.

4. Cost differentials should be initially established for the following programs with the appropriate cost differential. Recommended cost differentials are derived from research in South Dakota and other states which fall within a reasonable range. Cost differentials below the reasonable range will result in undernourished special programs, while too great a differential will cause an unnecessary diminution of the basic educational program.

The recommended special programs and cost differentials are:

Program	Reasonable Range	Recommended Cost Differential
Kindergarten	1.05 - 1.30	1.10
Grades 1-2	1.00 - 1.30	1.30
Grades 3-8	1.00	1.00
Grades 9-12	1.10 - 1.50	1.20
Special Education		
Physically Handicapped	1.50 - 4.00	3.95
Educable Mentally Retarded	1.50 - 2.50	2.45
Trainable Mentally Handicapped	1.60 - 3.00	1.70
Emotionally Disturbed	1.60 - 3.70	3.35
Learning Disabilities	1.50 - 2.50	2.45
Home Bound	2.40 - 2.60	2.50
Remedial Reading (Grades 1-6)	1.60 - 2.40	2.30
Vocational-Technical Programs		
Business Education	1.40 - 1.80	1.40
Distributive Education	1.40 - 1.50	1.50
Trades & Industries	1.50 - 2.90	2.20
Health Occupations	1.40 - 2.70	1.60
Agriculture	1.60 - 2.60	2.10
Home Economics	1.40 - 1.70	1.40

Combining State and Local Resources to Fund the Program

Presently the South Dakota state aid system is divided into a general support or flat grant allocation and an equalization support formula. The basic unit of measurement of educational need is the classroom unit which is weighted by population sparsity and density of school districts. A ten percent increase in allowed for administrative costs in independent districts. The general support portion provides a flat amount as determined by the legislature per weighted classroom unit.

The equalization support theoretically guarantees each school district a minimum foundation level per weighted classroom unit. The state, however, regularly under-appropriates and thereby has never funded the foundation equalization program to its authorized level. The foundation level for each school district operatus on the simple formula that cost minus income equals equalization support. The income for each district is determined by adding a qualifying rate of 13 mills on adjusted agriculture value of property and 18 mills on adjusted non-agriculture value to tuition receipts plus the amount the district receives from the state permanent school fund. To this is added the State General Support or flat grant and the total is subtracted from the predetermined foundation program level, the difference being the Equalization Support.

The South Dakota state aid formula places heavy reliance on elementary and secondary pupil enrollments and normative staffing ratios derived from past practices. Educational costs per pupil are extremely variable in South Dakota. School districts grouped according to size showed extreme variations in costs per pupil.

The specific factor of sparsity is provided for in the staffing formula where a one-teacher school, regardless of pupil enrollment, is counted as one classroom unit. Also, the over-all state program provides transportation and other allowances for residents and pupils of sparsely populated sectors.

The NEFP county study findings showed that population density (population per square mile) was correlated with total population. Therefore, assuming similar relationships among school districts, sparsity as a cost factor is recognized to the extent that district size (pupils) is considered as a cost factor in apportioning state aid. The county study also indicated size-cost correlations as well as cost correlations with poverty level, rural population, and age of the population.

The NEFP district study found economies and diseconomies of scale on average cost per pupil for seven selected size groupings of districts. Cost per unit tended to decrease as district size (pupils in ADM) increased. But, after the 900--1,200 pupil district size group, cost per pupil increased slightly. The extreme ranges around the mean per pupil cost for

each group are of great importance for costing educational programs for state aid apportionment purposes. Size of district alone will not satisfactorily explain enough of the variation found in cost per pupil to be used as a single factor in a state aid formula. However, district size and cost per pupil are related in the population of 191 school districts and state aid per pupil is not related to district size. This is evidence that the present state aid formula, which relies on an "a priori" assumption about staffing ratios, is not apportioning state aid to meet costs arising out of either small or large school district situations.

Reform and change in state aid apportionment schemes are needed in South Dakota. The classroom unit measurement of educational need is not resulting in state aid subventions to local districts to meet unique and different educational situations arising out of the district size factor. Our study indicates that while it is inequitable both in an educational and a fiscal sense to determine unit weights exclusively on a sparsity measure as South Dakota now does, we nevertheless have concluded that some weighting for sparsity is necessary. Technically we should observe that there is a rather low correlation (.325) between sparsity (pupils per square mile) and per pupil expenditures among all the independent school districts explaining only ten percent of the variance. However, a more definite relationship is established when the extremes of density are reduced to approximately six pupils per square mile. When this is done the correlation is much higher and 30 percent of the variance is explained.

Recommendations

1. A foundation program level of funding should be established based on a determination of educational needs of children in all school districts of South Dakota and an application of the appropriate cost differentials to a legislatively determined value of the basic unit.

2. State and local resources should be combined to support the foundation program level by the following formula: foundation program level minus 15 mills on the adjusted agriculture valuation and 22 mills on the adjusted agriculture valuation of property minus tuition receipts, minus permanent school fund. Based on 1971-72 data these rates would raise about $52 million statewide. The remainder is the state equalization support. The present flat grant portion of the South Dakota program ($1,350 per CRU) should be discontinued and the funds derived therefrom used to increase the equalization support.

3. The total state allocation for both common and independent schools should be increased to approximately $46 million. This increase will be sufficient to raise the total foundation program funding level so that the additional equalization derived from the increase in the

qualifying rate will be shared by the state and the local school districts alike. The total foundation program (state and local funds combined) should be approximately $98 million depending upon two important variables, first, the level of the basic pupil cost unit established by the legislature (it is recommended that this value be not less than $450) and, second, the determination of educational need as measured by the identification of children with special needs and the provision of the high cost programs. A low incidence of need among the school districts or inadequate identification will result in a reduction in units and program costs.

4. The state equalization program should gradually be expanded to provide at least 60 percent of total current operating expenditures for districts of average fiscal ability in the state.

5. Once the foundation dollar level is established for each school district based on educational needs and recommended cost differentials, and prior to the subtraction of the qualifying rates, the total dollar amount for each district should be multiplied by a sparsity factor. It is recommended that the sparsity factor be determined by a line of best fit established by a power curve formula using state and local expenditures per pupil and pupils per square mile as coordinates. Districts with above 5.1 density would have an index of 1.00. All other districts would receive the graph adjusted density allowance as indicated in Appendix A. The index would range from a 1.00 for high density to 1.30 for the lowest density district as determined by the graph adjusted allotment.

6. A state tax program should be enacted which includes a state graduated personal income tax coupled with a state corporate tax to produce sizable amounts of additional state revenue. Details for such a tax were beyond the scope of this study.

7. Greater equity in local assessments should continue to be strived for with a goal of taxing in all districts on the statutory base of 60 percent of full and true property valuation. Additional property tax recommendations include:

a. State legislated local property tax relief to accompany the recommended sizable increase in state support of education.

b. Application of the circuit breaker concept to lessen the impact of local property taxes on such categories of property taxpayers as senior citizens, small commercial, industrial, and agricultural business and other restricted income groups.

c. Elimination of the local statutory millage limit for special education and the statutory limits for the General Fund for each of the several categories of school districts be correspondingly increased. With increased state support and subsequent property

Teachers' Salaries and Fringe Benefits

South Dakota's teaching force is providing professional teaching services at salary levels between 20 and 30 percent below their counterparts in neighboring states. Further, they are earning about 14 percent less than the median households in the state although they represent a significant proportion of the state's college graduates. Finally, it has been shown that South Dakota teachers have more experience than the national average of 11 years and they are, on the average, older than the average South Dakota working adult. In terms of equality of teaching staff among the school districts much variation exists largely as a result of inadequate resources of poorer school districts and a general lack of fiscal equalization from state funding. The wealthier school districts have a median average teacher experience of over two and one-half years greater than the less wealthy districts.

Recommendations

1. The state should increase teacher salary levels approximately 14 percent. The cost to the state would be approximately $10.3 million the first year, $11.7 million the second year, and $13.4 million the third year. This amount is included in the estimated $95 million foundation program proposed above.

2. The state should make contributions to teachers' health and life insurance programs, preferably through a state plan. Based upon the 8,252 teachers employed for 1972-73 at $200 per teacher, the cost would be approximately $1.65 million per year. The declining teacher population should off-set the increases in premium costs for the next several years and thereby the expenditure represents an amount that would probably not change appreciably over the next three years.

3. Other professional and non-professional public school personnel should also be afforded health and life insurance programs in a manner similar to #2 above. The program would cost the state approximately $1.4 million per year. The total of $3.05 million for fringe benefits for both professional and non-professional employees is in addition to the $46 million recommended for the foundation program.

4. The state colleges and universities are producing more teachers than can possibly be absorbed by South Dakota school districts. A study of the employment opportunities of their graduates should be made by teacher-training institutions to determine courses of action relative to limiting production of teachers.

5. More American Indians should be encouraged to enter the teaching profession. An affirmative action program should be instituted to attract American Indians to teach in South Dakota.

Finally, no one enjoys paying more taxes. Education, however, is an investment in the future earnings and in the economic health of all communities. It has been clearly demonstrated by several economic studies that the amount of education correlates highly with income. The citizens of South Dakota must maintain a teaching force that can assist South Dakotans in realizing the economic and social benefits of education. The competitive position of South Dakota, relative to neighboring states, for high quality teaching personnel is not good. To increase that competitive position, South Dakota must increase teaching salaries of their public elementary and secondary teachers.

School District Organization

As has been the pattern in most plains states, South Dakota has historically operated a large number of local school districts. In recent years, not unlike other plains states, the number of school districts has been significantly reduced. Such factors as improved transportation, growing importance of secondary education, decreasing population in rural areas, and the societal demand for broadened educational opportunities have contributed to the decrease in the number of school districts.

With few exceptions the school districts in South Dakota are of two types. They are the independent district which provides a twelve year school program and the common district which provides less than a twelve year school program and typically a program for grades (K) 1-8. Certain types of atypical districts do exist in the state, e.g., a high school district may be superimposed over a large number of common school districts; contractual arrangements may exist between a local school district and the Bureau of Indian Affairs; and contractual arrangements may be made with districts in an adjoining state to accommodate transfer pupils at the elementary and/or high school levels.

In 1972-73, South Dakota had 195 independent districts, 32 operating common districts, and 4 non-operating common districts. The relative progress made in the state is evident when one considers that 15 years ago, in 1957-58, South Dakota had 261 independent districts and 2,978 operating common districts, making a total of 3,239 in 1957-58 as contrasted with 231 in 1972-73.

The commonly accepted criteria for adequate school district organization include the following:

1. A minimum enrollment in the district which can respond to pupil needs and adequacy of educational programming. Various studies have suggested minimum enrollments ranging from 1,200 to 20,000 or more pupils. In recent years the suggested minimum enrollment has repeatedly been in the vicinity of 10,000. In some sparsely populated states geographical barriers or road conditions may prevent meeting the desired level of minimum enrollments, and states and local districts must seek alternatives to provide assurances that pupils have access to adequate educational programs. Recent experience with school district organization has made it evident that a district of 1,500 - 2,000 will have considerable difficulty in responding to current or projected educational program needs of students. The criterion of minimum enrollment must be viewed in terms of the necessary pupil population for program needs and not in terms of a specific minimum number.

2. A sufficient financial base and/or geographic area to support schools. This standard will vary considerably among and within states, but some standard must be applied to assure the ability to support schools and minimize inequities among districts.

3. The administrative unit, or local district, which includes grades K-12 and is administered by a single board. It is rarely defensible to permit the continuance of separate elementary or high school districts. The reasons for their existence tend to be based on highly localized arguments rather than educational needs. Unit, or independent districts can be much more efficient in curriculum articulation, staff utilization, provision or special programs for pupils, coordination of educational programs, and efficient use of facilities.

Recommendations

The following recommendations are presented as necessary additional steps in school district reorganization to provide assurances that each child in South Dakota has access to an adequate school program in grades K-12.

1. South Dakota should have only one type of school district -- the independent district. Legislative action to accomplish this should be taken as soon as possible.

2. The State Board of Education, in response to the charge given it by the legislature, should take action with respect to the following:

a. Within a period of two years remove accreditation from any district which maintains a high school of less than 100 pupils except in those cases where the district encompasses an area greater than four townships; and furthermore, that within a period of five years no district shall be accredited which maintains a high school of less than 150 pupils except in those cases where the district encompasses an area greater than four townships.

b. Conduct a longitudinal study which identifies the outcome of school district reorganization in South Dakota.

c. Encourage the planning and implementation or multi-district units for the provision of services and programs not feasible in the local district. These cooperatives or regional districts could satisfy important needs not possible at present or in the foreseeable future. In all probability, such needs as cooperative purchasing, special education programs, employment of specialized personnel, computer services, and instructional materials will only be realized through cooperative efforts among districts.

3. Identify a task force in each county overlap to serve in an adjunct relationship with the State Board of Education. Each group should be composed of one school board member and one administrator from each independent district and no more than five representatives selected at large and appointed by the judge who has jurisdiction in the respective county. Provisions should be made for overlapping terms to provide some degree of continuity. The purposes for such a task force would include:

   (1) To provide the citizens with a means of engaging in discussions regarding goals, needs and problems with respect to education in specified geographical areas of the state;

   (2) To study and communicate ways in which the needs of pupils might be met more effectively and efficiently than is presently the case;

   (3) To serve as an important communication agent both to and from the State Board of Education with respect to proposals and plans as they affect local districts; and

   (4) To provide some sustaining influence in response to the efforts and ideas generated through the Community Involvement Plan.

Capital Outlay and Debt Service

In South Dakota the provision of public school facilities is primarily the responsibility of the local school districts. However, local school districts must have their building plans and sites approved by the State Department of Elementary and Secondary Education before seeking bids, and the criteria for such approval are established by the State Board of Education. The Department provides consultative assistance, but this has been limited due to a shortage of personnel assigned to this division.

In the area of funding for capital outlay, the state's function is to serve as a control agent on debt limits and procedural matters.

School districts have two major sources for funding capital outlay projects. One source is from the local property tax levy; the other is through the issuance of school district general obligation bonds. Both methods require that the yield be deposited in the district's capital outlay fund. The annual tax levy method may be regarded as a "pay-in-advance," or more commonly, a "pay-as-you-go" approach while the bond issue method is more of a "pay later" or debt service system. Historically, South Dakota school districts have tended to prefer the "pay-as-you-go" plan to meet their school facility needs.

A study of 18 sample South Dakota school districts indicated that larger school districts, with their typically lower ranking tax base per student, nevertheless had sufficient debt leeway to enter into major building programs. A number of the smaller districts in the sample would have been hard pressed to finance major building programs with their relatively low taxing base. The data secured from the sample school districts suggest that the state undoubtedly has many more small, tax-base poor school districts with inadequate resources to meet their building needs.

When South Dakota started its major reorganization of school districts in the late 1960's, many of the "master plans" provided that existing debt remain the obligation of the original units. This has resulted in substantial variations in millage rates for debt service within the newly reorganized school districts.

An analysis of the school facility needs of the sample school districts indicated that approximately one-half of the districts had school building construction needs. In five of the districts the needs might be described as critical. The reports indicate that in general the larger communities have had active building programs and have provided facilities at an acceptable rate. Major problem areas exist in many rural areas, especially those with stable or declining enrollments, and in growing enrollment districts located in suburban areas near the larger cities.

Enrollment projections for the state indicate a continued tendency for declining enrollment; however, these projections can be deceiving as

a measure of school facility needs. When people move, they leave useable school buildings behind and create new needs where they settle. The reasons for migration are typically economic. While moving may satisfy personal needs, it often creates new problems for local governmental agencies. If a state relies heavily upon local financing for school facilities, the system may have considerable difficulty in providing needed school housing.

Recommendations

The heavy reliance upon local funds to finance needed school construction, the variations in the quality of school buildings in local districts, the differing social and demographic conditions, and the wide variations in per pupil wealth among school districts suggest the following recommendations:

1. At the first opportunity, the constitutional ten percent debt limitation on school districts should be rescinded. It has no practical value and if a true need existed for debt beyond ten percent, it would provide a harmful barrier.

2. Additional staff time in the State Department should be allotted to studies of school building construction needs. The present regulations concerning needed reports from school districts should be given the force of law.

3. A study should be sponsored by the state to determine the current and projected needs for school building construction and to examine the factors that cause people to migrate.

4. Specific recommendations for state action include variable grants based on the state recognized project costs and a debt service grant program that recognizes prior effort for constructing school facilities.

a. Variable Grants for New Construction. Funds for school construction should be provided on a percentage basis equalizing at the same ratio as the foundation program. Districts that wish to spend beyond the amount approved by the state would be responsible for the additional cost. The immediate obligation of the state would be to participate in the non-debt fund in the same ratio as in the equalization program for current operations.

b. Equalized Grants for Debt Service. The debt service grant program would provide funds to aid districts in meeting bond and interest payments for approved or existing buildings. Guidelines would need to be developed to determine what portion of the building's cost would have been originally approved, and the state participation would only be in the approved portion

of the unpaid balance. The determination of the state's share would be made in the same manner as in the variable grants for new construction.

5. Consideration should also be given to having the state establish a state bonding authority which would purchase or supervise the sale of district bonds. The state could legally guarantee the debt service payments on the bonds by having the state meet the obligation from any defaulting district's state aid.

Pupil Transportation Program

The primary economic base of South Dakota consists of agricultural goods and services. With broad expanses of land used for raising cattle or production of grain, South Dakota's population density is one of the lowest in the nation. Except for the southeastern region of the state, and to some extent the southwestern region, South Dakota is sparsely populated. These socio-demographic conditions influence the nature of transportation programs. The density of the transported student population is quite low in most school districts. Most regular bus routes extend a considerable number of miles over the geographic region encompassed by the district. In several instances regular district transportation cannot be provided pupils living great distances from attendance centers because it would be uneconomical or because weather conditions would not allow bus passage. Where regular transportation services cannot be provided, parents or guardians are often required to transport their own children, or pupils must board near an attendance center or a regular bus route.

Decisions concerning the administration of local school transportation programs and the determination of transportation services are largely vested in local school districts. Policies regarding the degree and level of services to be offered within the district, eligibility rules, provisions for regular routes, and bus usage are made primarily by local school boards. Other matters relating to the provision and procurement of equipment and supplies, the employment of personnel, and the management of the district transportation budget fall into the realm of local jurisdiction within state guidelines.

For example, the state mandates no provision for the transportation of pupils who are at a higher level than the eighth grade. If local school districts wish to provide transportation services for pupils in grades 9-12, they may do so and such services will be reimbursed roughly on the same basis as services to students in grades K-8. The rationale behind this policy is that compulsory education extends through age 14 in South Dakota; therefore, decisions concerning the establishment of education and provisions for services for pupils beyond age 14 should be relegated to the local districts.

Under existing programs, state reimbursement is based on the cost of any one of the following local programs:

1. One school district may contract with another school district to furnish bus service but may use only district-owned vehicles.

2. A school district may transport non-resident pupils to its facilities, provided that charges for such transportation are levied against the district in which the pupil resides. The minimum costs charged for transporting non-resident pupils shall be equal to the average adjusted transportation cost per pupil two years prior. For example, the minimum charge for transporting non-resident pupils in 1972-73 was $98.00 per pupil. This amount was based on the average

adjusted per pupil cost of $98.11 in South Dakota for district-owned vehicles in 1970-71.

3. State reimbursement of local school district transportation costs in any given school year is based on the reimbursement allowances calculated by the state for the previous year. To illustrate, state reimbursement allowances for local costs in 1972-73 will be received by school districts in the 1973-74 school year.

4. The school board of the school district, after the assignment of any exceptional child having school residence within the district, shall provide transportation services. Mileage allowances to families may be made in lieu of district transportation.

5. Local school districts may participate in a state bidding program for tires.

State reimbursement is based on 50 percent of the net cost of operation with a ceiling of $3,000,000 available from the state for all school district transportation costs. Thus, if 50 percent of the total net cost of operation in the state exceeds $3,000,000, each school district will receive a pro rata share of the $3,000,000.

A comparison of South Dakota's average per pupil cost indicated that the state's costs are in excess of those in other states. Generalizations or conclusions from these data should be made with extreme caution, for the other states' average per pupil costs in the study were not comparable to South Dakota's except in two or three instances. Most states do not include bus depreciation, administration, or insurance in their cost figures. Average cost per pupil may not be an adequate basis on which to compare South Dakota with other states because of the sparsity of population. Average cost per pupil mile may be a more appropriate basis upon which to make comparisons. When South Dakota's expenditures on this basis were compared with similar states, the state's districts were spending less per mile on the average to operate their buses than their counterparts. Further analysis of the data indicated that the cost of school district owned and operated vehicles appeared to be less than the cost of privately owned and operated vehicles operating on a contract basis.

Recommendations

The following recommendations are presented as steps to be taken in improving South Dakota's pupil transportation program:

1. The state should implement a purchase and lease plan whereby either the state or the local district purchases buses outright and either operates buses or leases them to private contractors.

2. The state should either administer the insurance program and bid policies on a statewide basis, or local school districts should

re-bid their transportation insurance program in an effort to attract rates more in line with the dollar amount of insurance claims collected.

3. The state should establish criteria regarding what does and does not constitute a bus route and should identify the costs which will be reimbursed according to the state transportation formula.

4. The cost limitations in the present statute should be revised in a manner which will allow the limitation to fluctuate with actual expenditures.

5. Provisions for state reimbursement should recognize all students in grades K-12.

6. Mileage limitations for reimbursement programs should be reduced to one mile for all pupils.

7. Each local school district's entitlement for pupil transportation purposes should be calculated through the use of a power curve on which the cost per pupil day is plotted from the vertical axis and the density per linear mile on the horizontal axis. The formula to be used in $Y=aX^b$, and the district entitlement would be determined by plotting all districts in the state and then using the formula to determine the point of intersect between the curve of best fit and the transportation density of the district.

A district's entitlement would be determined by multiplying its graph adjusted cost by the annual total number of transported days for the district.

8. The transportation formula should incorporate a weight for the transportation of handicapped children who cannot be transported on regular transportation equipment. The allocation weight factor for handicapped children should be at least 5.00.

9. The formula for the allocation of funds for transportation programs should be revised so that it will operate on an equalization basis. The graph adjusted cost is included in the foundation program costs and the required local effort is subtracted from the sum of the two elements.

FISCAL ABILITY AND FISCAL EFFORT*

SECTION I

In recent years, the concept of education as an investment in human capital has gained much attention among economists and educators. The notion that increases in national productivity are directly related to increases in educational effort has been documented by contemporary research. Accordingly, failure to maximize economic returns to the national economy and to the local economies of the 50 states from optional investments in the development of human resources leads to a misallocation of national resources.

The legal responsibility for the major thrust of public education has been delegated to the states by interpretation of Article X of the Amendments of the Constitution of the United States which stated: "The powers not delegated to the United States by the Constitution nor prohibited by it to the States, are reserved to the States respectively, or to the people."

Subsequently, each of the 50 states have developed state constitutional provisions for a state system of public education. The Constitution of the state of South Dakota, Article VIII, Section 1, stated:

> The stability of a republican form of government depending on the morality and intelligence of the people, it shall be the duty of the legislature to establish and maintain a general and uniform system of public schools wherein tuition shall be without charge and equally open to all; and to adopt all suitable means to secure to the people the advantages and opportunities of education.

The degree to which equality of educational opportunity has been provided by state legislatures is being challenged throughout the nation. Nationally, an average in excess of 50 percent of the costs of providing elementary and secondary public education services has traditionally been provided by local units of government. During the 1971-72 school year, nearly 70 percent of revenues for operation of schools in South Dakota was provided by local sources. Because such a major portion of educational revenues have been derived from local sources, variations in local capacity to finance public education as well as variations in the willingness of local communities to commit available resources are of primary importance for meeting state and national goals.

---

*A study performed by Don C. Patton, Department of Educational Administration, Ball State University.

The purpose of this portion of the study was to conduct a comprehensive analysis of fiscal ability and fiscal effort for financing public education in South Dakota. The first section of the report deals with general demographic characteristics and trends in South Dakota. The second section deals with the general fiscal ability of the state of South Dakota for financing education and variations in fiscal ability among local school districts by selected categories. The third section reports an analysis of the relative fiscal effort exerted by South Dakota for financing education compared to neighboring states and United States averages and variations among school districts by convenience groupings. The final section presents conclusions drawn from the analyses and recommendations for improvement of educational financing in South Dakota.

General Characteristics of South Dakota

South Dakota is one of the larger states of the nation as measured by geographic area, covering in excess of 76,000 square miles.[1] The state is predominantly rural in nature with well over half of the 1970 population living in rural areas. In excess of 90 percent of the land area is classified as farm land. The farms, in general, are large as compared to national averages, with the average size farm containing about 1,000 acres in 1969. Average size of farms in the state has nearly doubled since 1940. Nearly half of the farm income is derived from the production of beef cattle. Primary grain crops are wheat and corn, which when combined, accounted for less than 12 percent of all farm income in 1969.[2]

General Population

The general population of South Dakota experienced modest growth between 1940 and 1960 but some decline was experienced during the decade following 1960. The data presented in Table 1 show population changes for South Dakota, six selected neighboring states, and the United States for the census years 1950, 1960, and 1970.

Minnesota was the only state in the comparison in which population growth exceeded the national average during the decade of the sixties. All of the states as well as the average for the nation showed reduced growth during the decade of the sixties as compared with the fifties while both South Dakota and North Dakota actually lost population.

South Dakota Population by Planning Districts

A general population distribution for South Dakota by planning districts for each of the three census years 1950 to 1970 and the percentage changes for each district is shown in Table 2. A map of

TABLE 1. General Population--South Dakota, Selected Neighboring States and the United States, 1950-1970

State	1950	1960	Percent Change	1970	Percent Change
Minnesota	2,982,483	3,413,864	14.5	3,804,971	11.4
Iowa	2,621,073	2,757,537	5.2	2,824,376	2.4
Nebraska	1,325,510	1,411,330	9.8	1,483,493	5.1
Montana	591,024	674,767	14.2	694,409	2.9
South Dakota	652,740	680,514	4.3	665,507	- 2.2
North Dakota	619,636	632,446	2.1	617,761	- 2.3
Wyoming	209,529	330,066	13.6	332,416	0.7
United States	154,233,234	183,285,009	18.8	203,211,926	10.8

Source: U. S. Census Data, 1970.

South Dakota outlining the planning districts used for convenience groupings in Table 2 and in several subsequent tables is presented in Figure 1. The districts were established by executive order of the Governor of South Dakota in December, 1970.

TABLE 2. Population Distribution and Changes by Planning District--South Dakota, 1950-1970.

Planning District	1950	1960	Percent Change	1970	Percent Change
I	107,418	105,597	- 1.6	97,865	- 7.3
II	126,442	139,380	10.2	146,654	5.2
III	109,549	103,184	- 5.8	97,428	- 5.5
IV	127,208	120,872	- 4.9	115,094	- 4.7
V	81,116	85,530	5.4	78,957	- 7.6
VI	101,007	125,951	24.6	129,509	2.8
South Dakota	652,740	680,514	4.3	665,507	- 2.2

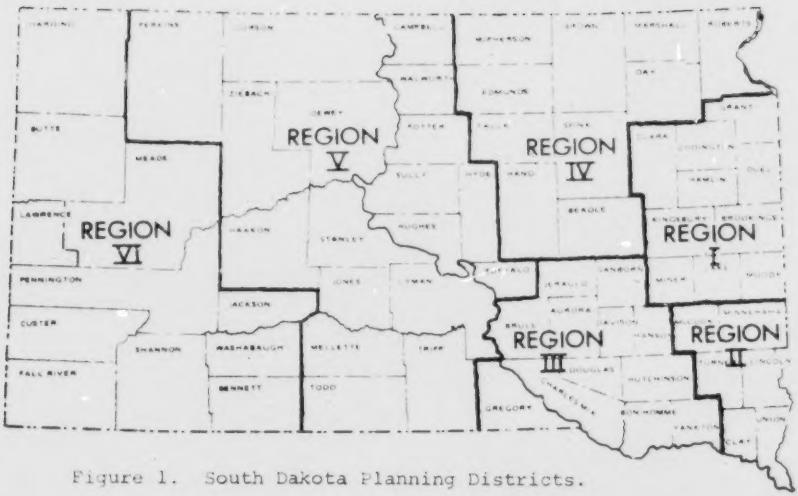


Figure 1. South Dakota Planning Districts.

Source: South Dakota Department of Public Instruction, by South Dakota Council on Economic Education, South Dakota in Maps, Pierre, S.D.: The Department, 1973., p. 15.

Interesting shifts in population distribution have occurred during the two decades studied. The western region of the state and second largest by population, Region V, experienced the greatest growth, nearly 25 percent, between 1950 and 1960. A cursory analysis of population change by county showed that Pennington County was the center of most of the growth. The growth had slowed considerably to less than three percent between 1960 and 1970. Rapid City, second largest city of the state, by population, is the county seat of Pennington County.

Region II, the southeastern corner of the state and the largest region, was the second fastest growing region during the fifties, and became the fastest growing region during the decade of the sixties. Minnehaha County contains the largest city of South Dakota, Sioux Falls. Clay County in Region II experienced nearly a 20 percent growth in population between 1960 and 1970.

Region V, the central region of the state, switched from a moderate growth of 5.4 percent in the fifties to a decline of 7.6 percent during the sixties. Region V was the smallest region by 1970 census data, but two counties, Todd and Buffalo, although sparsely populated, experienced marked percentage growth increases during the decade of the sixties. Todd County is a part of the Rosebud Indian Reservation while Buffalo County comprises a major portion of the Crow Creek Indian Reservation.

Region IV was the third largest region by population in the state, but Brown County, containing the city of Aberdeen, was the only county which experienced growth during the decade of the sixties. The net population loss for the region was nearly five percent.

Region I and III, east central and southeast central respectively, were about the same size by 1970 population, but the loss of population in Region I was in excess of the loss in Region III. The two regions experienced the highest percentage losses in population among the six planning regions of the state between 1960 and 1970. Brookings County with a 10 percent plus growth was the only county in Region I which experienced a population growth during the sixties. The growth was nearly constant with the growth of the preceding decade. In Region III, Yankton County and Charles Mix County each experienced modest growth during the sixties while all other counties in the region showed declining population.

In summary, only Regions II and VI of the state of South Dakota showed growth during the decade of the sixties. The greatest population losses were experienced in Regions V and I, each experiencing seven percent losses during the ten-year period. Districts III and IV lost 5.5 and 4.7 percent respectively. The state of South Dakota experienced a net population loss of 2.2 percent during the decade of the sixties while the average change for the nation was a 10.8 percent increase.

Population by Potential School Attendance Age Group

The final analysis of general population dealt with potential school attendance age group, that is, the United States Census category of ages five years to under 18 years. Population data for the selected age group and respective percentage changes are reported for South Dakota, six selected neighboring states, and the U. S. averages for the years 1950, 1960, and 1970 in Table 3.

Data were compiled for the six South Dakota Planning Regions for an analysis of potential school age population distribution and respective changes within the state. The summary data are included in Table 4.

South Dakota planning districts VI, II and V experienced increases during the sixties in the population age category five to under 18 years while districts I, IV and III experienced net losses. The loss in district III, however, was negligible.

When compared to the data reported in Table 2, which represented distribution trends of the total general population by South Dakota planning districts, the trend for increased numbers of school age youth

TABLE 3. Population Ages Five Years to Under Eighteen--South Dakota, Selected Neighboring States and the United States, 1950-1970

State	1950	1960	Percent Change	1970	Percent Change
Minnesota	615,540	867,373	40.9	1,049,716	21.0
Iowa	535,885	680,054	26.9	741,725	9.0
Nebraska	266,236	339,700	27.5	387,269	14.0
Montana	126,729	177,306	39.9	196,071	10.5
South Dakota	144,468	179,036	22.3	186,662	4.8
North Dakota	148,239	172,090	16.0	175,012	1.6
Wyoming	62,867	86,948	38.3	91,652	5.4
United States	30,175,410	43,881,109	45.4	52,489,744	19.6

Source: U. S. Census Data, 1970.

TABLE 4. Age Five to Under Eighteen Population Distribution and Changes by Planning District--South Dakota, 1950-1970

Planning District	1950	1960	Percent Change	1970	Percent Change
I	24,693	27,268	10.4	25,859	- 5.1
II	25,296	35,403	39.9	40,212	13.5
III	24,152	26,584	10.0	26,523	- 0.2
IV	28,607	32,603	13.9	32,085	- 1.5
V	20,473	24,186	18.1	24,946	3.1
VI	22,275	31,964	43.4	37,037	15.8
South Dakota	145,496	178,008	24.4	186,662	4.9

Source: Compiled from U.S. Census Data, 1970.

in the western region of the state, District VI, was marked. Region II, the southeastern most region showed the greatest general population growth, but the second largest percentage of potential school age population growth during the sixties.

Public School Enrollments

Public school enrollments for the eleven-year period 1961-1962 to 1971-1972 for South Dakota and the United States were analyzed for discernible trends. Data pertaining to public school enrollments are reported in Table 5. The year 1961-1962 was selected as a base year with respective changes reported as annual percentage changes and cumulative percentage changes after the base year.

Generally, a decline in annual rate of public school enrollments has been experienced for the United States and South Dakota as well. However, an overall 20 percent increase in enrollments for the nation during the 10-year period, 1961-62 to 1970-71, was accompanied by approximately a five percent increase in South Dakota. During three of the last four years reported in Table 5, South Dakota experienced a net loss in enrollments. A cursory glance at data for the school year 1972-73 revealed that the trend was perpetuated. Although population growth for the nation increased during the decade of the sixties and potential school age population increased even greater, the trend as perceived through public school enrollments is for a leveling off, if not a decline, during the seventies. Current predictors would not lead to the conclusion that radical decreases should be anticipated for South Dakota generally, nor should the increases of the sixties be counted as continuing to prevail.

Economic Bases

Primary tax bases for state and local revenues have been clearly established as income, consumption and wealth. Changes in personal and per capita income, retail sales and property valuations were studied for trends as such trends may relate to future public school financing in South Dakota. Where data were available, comparisons were made for South Dakota, six selected neighboring states and United States averages. The sections which follow deal with each of the three selected economic bases.

Personal and Per Capita Personal Income

Data pertaining to relative personal and per capita income for South Dakota, six selected neighboring states and the United States for 1950, 1960 and 1970 are reported in Tables 6, 7 and 8. Table 6 shows personal income in millions for each of the three selected census years

TABLE 5. Public School Enrollments, South Dakota and the United States, 1961-62 to 1971-72

Year	South Dakota			United States		
	Enrollment	Percent Change Annual	Percent Change 1961-62	Enrollment (Thousands)	Percent Change Annual	Percent Change 1961-62
1961-62	163,630	---	---	38,253	---	---
1962-63	168,173	2.78	2.78	39,746	3.90	3.90
1963-64	170,224	1.22	4.03	41,025	3.22	7.25
1964-65	171,958	1.02	5.09	42,280	3.06	10.53
1965-66	172,965	.58	5.70	42,835	1.31	11.98
1966-67	175,252	1.32	7.10	43,898	2.48	14.76
1967-68	175,654	.23	7.35	44,769	1.92	16.76
1968-69	173,791	-1.06	6.21	45,860	2.46	19.84
1969-70	172,616	-0.68	5.09	45,903	0.13	20.00
1970-71	173,006	0.23	5.73	45,939	-0-	20.09
1971-72	171,636	-0.79	4.89	N.A.	---	---

Sources: U.S. Office of Education, Digest of Educational Statistics 1965, South Dakota Department of Public Instruction, 1971-72 Educational Statistics Digest, p. 2; 1969, p. 23; 1971, p. 24.

TABLE 6. Personal Income--South Dakota, Selected Neighboring States and the United States, 1950-1970[a]

State	PERSONAL INCOME (In Millions) 1950	Rank	1960	Rank	Percent Change	1970	Rank	Percent Change
South Dakota	814	41	1,217	46	49.5	2,108	45	73.2
Iowa	3,897	17	5,475	21	40.4	10,418	23	90.2
Minnesota	4,227	13	7,241	16	71.3	14,580	19	101.3
Montana	962	39	1,383	42	43.7	2,349	44	69.8
Nebraska	1,978	30	2,990	31	51.1	5,570	33	86.2
North Dakota	782	43	1,087	47	39.0	1,848	48	70.0
Wyoming	484	47	749	49	54.7	1,181	51	57.6
United States	226,214	--	398,726	--	76.2	798,949	--	100.3

Source: Survey of Current Business, U.S. Department of Commerce, August, 1971, p. 30.

Percentages were computed.

[a]Rank denotes relative income data from largest to smallest for the 50 states and the District of Columbia.

TABLE 7. Per Capita Personal Income--South Dakota, Selected Neighboring States and the United States, 1950-1970[a]

State	1950	Rank	1960	Rank	Percent Change	1970	Rank	Percent Change
South Dakota	1,242	36	1,782	40	43.4	3,165	41	77.6
Iowa	1,485	23	1,987	30	33.8	3,688	26	85.6
Minnesota	1,410	27	2,114	26	49.9	3,824	18	80.8
Montana	1,622	14	2,037	28	25.5	3,379	34	65.8
Nebraska	1,490	21	2,110	27	41.6	3,757	22	77.7
North Dakota	1,263	35	1,714	41	35.7	2,995	42	74.7
Wyoming	1,668	12	2,261	17	35.5	3,556	29	57.2
United States	1,496	--	2,216	--	48.1	3,921	--	76.9

Source: Survey of Current Business, U.S. Department of Commerce, August, 1971, p. 31.

Percentages were computed.

[a]Rank denotes relative income data from largest to smallest for the 50 states and the District of Columbia.

TABLE 8. Indices of Per Capita Personal Income--South Dakota and Selected Neighboring States with United States Average as a Base, Census Years 1950, 1960 and 1970

State	Index of Per Capita Personal Income		
	1950	1960	1970
United States	100.0	100.0	100.0
South Dakota	83.0	80.4	80.7
Iowa	99.2	89.6	94.0
Minnesota	94.2	95.3	97.5
Montana	108.4	91.9	86.1
Nebraska	99.5	95.2	95.6
North Dakota	84.4	77.3	76.3
Wyoming	111.4	102.0	90.6

Source: Compiled from Survey of Current Business, August, 1971, p. 31.

with the ranking of the selected states among the 50 states and the District of Columbia for each year and the percent change during each of the two decades studied. Table 7 shows the same categories of information for per capita personal income in dollars. Per capita personal income data were subsequently analyzed for each of the three census years by expressing per capita personal income as a relative index using the United States average as a base (100.0) for each year. The respective indices are reported in Table 8.

An analysis of the data reported in Tables 6, 7 and 8 revealed that by measures of personal income, South Dakota is well below national averages. When changes in total personal income, Table 6, were reviewed independently, a slight relative improvement was noted by a shift in ranking among the fifty states from the position of 46 to the position of 45. Compared to neighboring states and the United States average, although relative change in personal income was not marked, the conclusion can be drawn that the state of South Dakota was not experiencing an unfavorable decline with respect to counterpart states.

A study of the data reported in Table 7 revealed that per capita income in South Dakota during the decade of the sixties experienced a slightly higher percentage increase (77.6 percent) than the

national average (76.9 percent). Neighboring states of North Dakota (74.7 percent), Montana (65.8 percent) and Wyoming (57.2 percent) experienced a smaller than national average increase.

When per capita personal income for South Dakota and the six selected neighboring states was expressed as an index using the national average for each of the three census years as a base of 100.0, the emphasis was redirected from relative percentage changes between decades in per capita income to relative comparisons of static data for each of the three census years. The data for Wyoming illustrates the difference in thrust. For the census years 1950 and 1960, Wyoming clearly had the highest per capita income of the six selected states and South Dakota. However, Wyoming experienced a relatively constant decline in index from 1950 to 1960 and 1960 to 1970. A similar condition may be observed for the case of Montana. South Dakota, on the other hand, experienced a modestly declining index between 1950 and 1960 with a slight increase in relative per capita personal income between 1960 and 1970. The same trend could be observed for Nebraska and Iowa. Minnesota was the lone state in the comparison with a gain in relative per capita personal income for the two decades.

In summary, with regard to personal income and per capita personal income as economic indicators, the position of South Dakota is stable if not indicative of modest improvement when compared to selected neighboring states and averages for the nation as a whole. Income as a tax base offers a potential source of sizable amounts of revenue for the state of South Dakota.

Retail Sales

The second economic base studied was retail sales. Taxes on consumption have, for the past several years, served with taxes on income as a leading producer of state revenues. Volume estimates and percentage changes in retail sales were analyzed for South Dakota, six selected neighboring states and the nation for selected years of 1960 and 1971. Data pertaining to retail sales are reported in Table 9.

The volume of retail sales in South Dakota was well in excess of one billion dollars during 1971. Retail sales increased by nearly 63 percent between 1960 and 1971. While the increase in retail sales for the nation during the same period was in excess of 78 percent, the South Dakota increase was surpassed only by the neighboring states of Iowa, Minnesota and Nebraska. When compared with population changes and per capita income changes for the same selected states, the position of South Dakota with respect to growth in retail sales was somewhat consistent with expectations. The tax base should continue to expand with the general improvement of the state economy with the expansion compounded by the effects of inflation. The present four percent retail sales tax in South Dakota provides a favorable source of state

TABLE 9. Retail Sales Estimates--South Dakota, Selected Neighboring States and the United States for Selected Years, 1960 and 1971

(Dollar values in millions)

State	1960	1971	Percent Change
South Dakota	$ 832.24	$ 1,353.23	62.6
Iowa	3,625.52	6,348.96	75.1
Minnesota	4,275.81	7,283.46	70.3
Montana	894.95	1,388.89	55.1
Nebraska	1,832.48	3,302.96	80.2
North Dakota	790.59	1,213.83	53.5
Wyoming	457.08	656.72	43.6
United States	219,830.84	392,586.64	78.5

Source: Sales Management, "Survey of Buying Power," May 10, 1961, and July 10, 1972.

revenue. Increases in the state levy on a sizable and expanding retail sales tax base provide an alternative for future state revenue needs in the state of South Dakota.

Property Valuations

The third economic base identified for study was valuation of real and personal property for tax purposes. Taxes on assessed valuations of real and personal property have historically provided the largest source of revenue for services provided by local governments in the United States.

Table 10 contains data with regard to assessed valuations of property subject to local general property taxation for South Dakota, six selected neighboring states and the United States for the years 1956 and 1966. The first two columns of data deal with total taxable property, after exemptions, for each of the selected years, and the third column shows the percent change between 1956 and 1966. The five columns on the right hand side of the table contain data with regard to real property that is locally assessed. Extreme caution must be exercised in interpretations of data which compare state property assessments because legal bases for property taxation vary widely from state to state. Particularly, totals and averages for the nation have

TABLE 10. Assessed Value of Property Subject to Local General Property Taxation--South Dakota, Selected Neighboring States and the United States, 1956-1966[a]

(Dollar Values in Millions)

State	Total Taxable Property (After Exemptions)			Locally Assessed Real Property				
	1956	1966	Percent Change	1956 A.V.	Average Assessment Ratio[a]	1966 A.V.	Average Assessment Ratio[a]	Percent Change A.V.
South Dakota	$ 1,930	$ 2,393	24.0	$ 1,300	40.2	$ 1,604	34.3	23.4
Iowa	4,607	6,225	35.1	3,533	23.2	4,333	21.8	22.6
Minnesota	2,009	2,517	25.3	1,590	11.7	1,614	10.6	1.5
Montana	619	824	33.1	272	8.5	339	8.7	24.6
Nebraska	2,956	4,333	46.6	2,112	28.9	2,524	25.1	19.5
North Dakota	640	693	8.3	403	14.8	452	11.0	12.2
Wyoming	784	1,168	49.0	265	19.3	315	17.4	18.9
United States	272,444	484,057	77.7	209,765	30.3	290,043	30.8	38.3

Source: Taxable Property Values, Department of Commerce, Census of Government, 1957 and 1967, Vol. 2.

Percentages were computed.

[a]Statewide size-weighted average ratio of assessed value to price of sold properties.

limited application as a criterion for meaningful comparisons. However, some inferences can be made from the data reported in Table 10. The percentage of increase in the total property tax base was less for South Dakota than all other states with the exception of North Dakota. Also, the ratio of assessed value to sales price declined during the 10-year period for all states in the comparison with the South Dakota assessment ratio declining nearly six points--greater than for any of the neighboring states. Complexity of arriving at assessment/sales ratios places a constraint upon finite application of such ratios, but may be comfortably used to call attention to a need for review of assessment practices within the state to support or refute the indicated trend.

It was interesting to note from the extreme right hand column in Table 10 that South Dakota experienced the greatest increase in the taxable value of locally assessed real property, excepting the total for the nation. In 1966, about 70 percent of the real property in South Dakota was locally assessed.

Assessed valuations and percentage changes for tax payment years 1962 through 1972 for the state of South Dakota are shown in Table 11. The assessed valuation is comprised of several components. On the one hand, assessed valuations are grouped as agricultural property and non-agricultural property because of differential rate structures on the two classifications of property. On the other hand, local property is classified into the following categories by level of government for assessment:

Locally Assessed	Centrally Assessed
Real Estate	Railroads
Personal Property	Utilities
	Money and Credits

Assessed valuations, as shown in Table 11, have increased by nearly 50 percent during the period from 1962 through 1972. Little change was noted for the tax payment years of 1966 and 1967 while large increases were experienced in 1970 (10.6 percent) and 1968 (7.8 percent). Although a brief review of county assessments within the state revealed wide disparities, a total property tax base well in excess of three billion dollars and increasing on the average, in excess of four percent per year, provides optimism for revenues from such a source in future years.

In summary, with regard to the three economic bases studied, South Dakota is in favorable fiscal position to continue to focus on improvement of public education.

TABLE II. Assessed Value of Property Subject to Property Taxation--South Dakota, 1962-1972

Tax Payment Year	Total Assessed Valuation (In Millions)	Annual Percent Change	Percent Changes After 1962
1962	$ 2,204	--	--
1963	2,275	3.2	3.2
1964	2,333	2.5	5.9
1965	2,399	2.8	8.8
1966	2,393	0.0	8.7
1967	2,414	0.1	9.5
1968	2,603	7.8	18.1
1969	2,736	5.1	24.1
1970	3,026	10.6	37.3
1971	3,074	1.6	39.5
1972	3,228	5.0	46.5

Source: 1971-1972 Educational Statistics Digest, S. D. Department of Public Instruction and Annual Statistical Report, 1971-1972, S. D. Department of Revenue. Percentages were computed.

Sources of State and Local Revenue

A review of selected literature revealed that for the 1971-72 school year, local sources of revenue provided, on the average, 52 percent of the total revenue for the operation of public schools in the United States. Forty-one percent was derived from state sources and federal sources provided seven percent of the total public school revenue. Approximately 98 percent of all local revenues in 1971-72 were derived from taxes on real and personal property. Sources of state revenue were more varied among the 50 states, but were derived mainly from taxes levied on retail sales and income while federal sources of revenue have been predominately based upon the income of individuals and corporations.[3] The two sections which follow pertain to public revenues for South Dakota derived from state sources and local sources respectively. In each section, general patterns of governmental financing are followed by patterns of financing for public elementary and secondary education.

Sources of State Revenue

Tax reform to meet increased demands for publicly produced goods and services has become a universal concern for state legislatures. A brief review of fiscal concerns of the state of South Dakota revealed

that the state is not uniquely different. Increased state taxes have consistently been a topic of the South Dakota Legislatures of recent years. Evidence to support the position that sincere and dedicated efforts toward tax reform have been undertaken by South Dakota lawmakers was provided by numerous studies that have been conducted by taxation consultants, both in-state and out-of-state. Neither space nor resources for the present report permitted a comprehensive analysis of state tax reform. However, the following paragraphs briefly provide a contemporary perspective of state taxation for South Dakota and subsequently, patterns of state allocation for public schools.

Sources for State Government Generally

During the fiscal year 1972, nearly $120 million dollars was collected by the state government of South Dakota from 27 separate taxes. For convenience, the taxes were grouped into seven categories in Table 12.

Nearly one-half of the revenue collected in 1971-72 by the Department of Revenue, state of South Dakota, was derived from a four percent general retail sales and use (storage or consumption) tax. The tax is an excellent producer of revenue and preliminary predictions for fiscal 1973 and 1974 have been estimated by the Department of Revenue at $63.2 million and $67.0 million respectively.[4] In addition, the cities and/or towns of Sioux Falls, Rapid City, Aberdeen, Deadwood, Custer, Hot Springs, Spearfish, Sturgis, Walls and the Pine Ridge Reservation received revenues collected by the state from an additional local options sales tax of one cent applied to the state retail sales and use tax base for the civil division opting the tax. State revenues from the general retail sales tax are receipted into the state General Fund for appropriations by the state legislature while revenues from the city and town optional levies are returned to the civil division which levied the tax.

Motor fuel taxes are the second largest producer of state revenues, providing nearly 28 percent of the 1971-72 total revenues. Motor fuel taxes are for the most part, dedicated for highway usage and provide little prospect for educational usage in the future.

Other sources combined provided less than 20 percent of the 1971-72 total revenues for the state. Some are dedicated for specific governmental purposes for the most part, while others provide nominal contributions to the state General Fund. For example, approximately 60 percent ($3.66 million) of the alcoholic beverage taxes and fees were receipted into the state General Fund in 1971-72.

State Allocations for Public Schools

State allocations for public schools in South Dakota accounted for an average of less than 14 percent of all receipts during the 1971-72 year. Table 13 contains a summary of receipts by source for the 37 common school districts and the 195 independent school districts

TABLE 12. Sources of State Revenue--South Dakota, Fiscal Year 1972

Type of Tax	Description	Amount (In Millions)	Percent of Total
General Sales and Use	4% for State	$ 57.71	48.3
	1% for 10 Cities	4.77	4.0
Motor Fuel	Variable 7 and 6 cents/ gallon plus $100 annual license and temporary permits: interstate truckers	33.27	27.8
Cigarette	12¢/package plus $150/license/year	8.10	6.8
Auto Registration	3% - initial registration	5.99	5.0
Alcoholic Beverage	Variable license fees - Occupation taxes - variable - 10% gross sales, wholesalers	5.61	4.7
Inheritance	1 1/2% to 24% Exemptions $100 - $15,000	2.72	2.3
Micellaneous	Bank Franchise - 5 1/2% net income; Private Carline - 6% gross receipts; Railway Express - 6% gross receipts; Trading Stamp License - annual $50; Coin Laundry License - $5 and $6 per machine; Anti-Freeze and Contractor Licenses - annual $20.	1.33	1.1
Total Revenues		$119.50	100.0

Source: Annual Statistical Report, 1971-1972, Department of Revenue, South Dakota.

of the state that participated in state aid allocation during the 1971-72 school year.

TABLE 13. Receipts by Governmental Source--South Dakota Common and Independent School Districts, 1971-72

Source	Amount	Percent of Total
Revenue		
Local	$ 101,512,586	71.38
County	1,439,412	1.01
State (Total)	(19,702,743)	(13.85)
Appropriation	14,993,331	10.54
Apportionment	3,576,257	2.51
Other	1,133,155	.80
Federal	17,856,404	12.56
Non-Revenue	1,297,404	.91
Transfer Receipts - Other States	409,533	.29
TOTAL	$ 142,218,082	100.00

Source: 1971-1972 Educational Statistics Digest, South Dakota Department of Public Instruction.

State allocations to local public school districts during the 1971-72 school year were categorized into ten sources as follows:

(1) General Support--a flat grant per classroom unit.
(2) Equalization Support.
(3) State Apportionment from the Permanent School Fund.
(4) Transportation Support.
(5) Exceptional Children Fund.
(6) Vocational Education Fund.
(7) Instructional Television Fund.
(8) Tax Base Depleting Acres Distribution.
(9) Public Shooting Funds Distribution.
(10) Food Service Fund.

The first three sources are incorporated into the computation of the state minimum foundation program which is used as a vehicle for allocation of about 80 percent of all state appropriations for public schools in South Dakota.

The minimum foundation program is based on classroom units, weighted independently for elementary and secondary schools for sparsity

of population considerations. Ten percent of allowable classroom units is added for administration and supervision for eligible independent school districts. During the school year being studied, 1971-72, the foundation program was defined as $8,000 per classroom unit. The foundation program was increased by the South Dakota Legislature to $8,500 per classroom unit for the 1973-74 school year.

For computation of equalization support for each local school district, a flat grant of $1,000 per classroom unit (increased to $1,350 for 1973-74) is added to the state apportionment from income on permanent school funds (based on number of eligible school age children residing in the district), receipts from students transfers and local income produced on qualifying levies of 13 mills and 18 mills on adjusted local valuations of agricultural and non-agricultural property respectively. The sum of the three sources of income for the local school district is subtracted from the defined foundation program to determine local school district equalization entitlement. For the past several years, state appropriations have not been adequate to fully fund the foundation program. State education officials have estimated that local minimum foundation entitlements will have to be prorated at about 77 percent for the 1973-74 school year.

The fourth source of state aid to local schools, transportation support, has been based on $20 per pupil in average daily attendance transported. The computation of transportation support has been revised for 1973-74 as 50 percent of the adjusted transportation cost (18 cents per mile maximum), plus mileage paid to parents, and room and board where applicable, less specifically designated transportation receipts from other sources. State appropriations are estimated to be inadequate for totally funding the 1973-74 transportation program. A 90 percent prorated allocation has been estimated.

In recent years, money has been appropriated each year by the South Dakota Legislature to reimburse school districts for special education programs, that is, programs for exceptional children. In 1971-72, on the average, about 13 percent of the total cost of such programs throughout the state was financed by the special state appropriation.

Special state appropriations are made each year for reimbursement of vocational education programs. Such state funds are used for matching funds from federal sources and allocations are based on project approval. Job opportunities and manpower needs are criteria used in prorating allocations.

The Instructional Television Fund has been established by the South Dakota Legislature for the purchase and/or rental of instructional television programs in public schools. The size and availability of such allocations are small.

Tax Base Depleting Areas and Public Shooting Funds distributions consist of reimbursements by the state based on local revenues foregone by the local district on the taxable value of such property.

Finally, the Food Services Fund consists of annual state matching appropriations for federal funds. The money is allocated based on the numbers of children participating in the lunch program as established by Section IV of the National School Lunch Act.

In summary, most of the state aid allocated to South Dakota local school districts is by state appropriation of funds for the minimum foundation program. Several other sources combined comprise about 20 percent of the state allocations, but are for the most part categorical in nature. In general, it was concluded that the Legislature has failed to appropriate adequate funds to accommodate the minimum foundation program and the transportation distribution formulas. Accordingly state aid entitlements have been escalated downward by a prorata computation, forcing local sources of revenue to bridge the gap created by such shortages.

Sources of Local Revenue

For convenience of reporting, sources of educational revenue from local and intermediate levels of government were combined under the general heading of sources of local revenue.

As reported in Table 13, over 72 percent of all South Dakota public school revenues for the school year 1971-72 were derived from local sources. About one percent were allocated to local school districts by intermediate or county governments while the remaining 71 percent was derived from income collected directly at the local school district level.

The largest single source of local public school revenues was the tax levied on the assessed value of real and personal property. Assessments of local property in South Dakota are equalized at the local level by a local equalization board of assessment. The county board of commissioners for each county is charged with the responsibility of equalizing for differences in assessment practices among local units of government. A State Board of Equalization hears and rules on appeals with regard to local assessments. The South Dakota State Department of Revenue supervises assessment procedures and annually compiles a ratio of sales to assessment of property for each county. The ratio factors are computed independently for property classified as rural and urban and are applied to local assessments for purposes of state minimum foundation program computations. Legal provisions of the state direct that property is to be assessed at real and true value and taxed at 60 percent of such value. Observation of actual practice would indicate that a departure from the 60 percent criterion was common. For 1972 taxes payable in 1973, the taxable value of all sales reported in the state represented 39.4 percent of the total aggregated selling prices according to the computations by the State Department of Revenue. The range for the 67 counties of the state was from a low of 29.3 percent to a high of 53.3 percent.[5]

Local school districts may levy taxes on the local property tax base for four distinctly separate educational accounting funds--General Fund, Special Education Fund, Capital Outlay Fund, and the Bond Redemption Fund. The four funds and attendant statutory local property tax levy limits are reported in Table 14.

TABLE 14. Maximum Local Property Tax Levies for Public Schools by Fund--South Dakota

Fund	Type of School	Statutory Maximum Levy
General[a/]	Elementary only	20 mills--all property
	High School only	14 mills--agricultural 20 mills--non-agricultural
	Elementary & High School	24 mills--agricultural 40 mills--non-agricultural
Special Education	Elementary & High School	2 mills--all property
Capital Outlay	Elementary & High School	5 mills--all property
Bond Redemption	Elementary and High School	Amount necessary

Source: Administrative Manual for South Dakota Schools, Department of Public Instruction.

[a/] An additional levy not to exceed 10 mills may be levied by referendum approval of 75 percent of the electorate. Also a minor permissable levy may be made on moneys and credits, but produces insignificant revenues.

Constitutional debt limitation for school districts is established at 10 percent of the local assessed valuation for the issuance of serial bonds. Bonding for capital outlay financing must be approved by 60 percent of the electorate.

In addition to the local property tax, miscellaneous local sources of revenue include (1) a bank franchise net income tax distributed by the counties, (2) gross receipts taxes on rural utilities, (3) a county apportionment tax from miscellaneous county taxes and fines, (4) a county dog tax, and (5) income from rental or sale of county-owned real property.

In summary, taxes levied on real and personal property provide the major existing and potential source of local revenue for public schools. Statutory limitations on millage levies provide a constraint for sizable amounts of additional revenues for the operation of educational programs.

Characteristics of Current State School Financing Patterns

The distribution of state revenues to local school districts has shown a history of state legislatures struggling with the problem of maximizing returns from public educational investments by means of state allocations of funds to local school districts. Two commonly adopted procedures for distributing state funds to local school districts have been flat grant programs and equalization programs. State flat grant funds are distributed on a per pupil or a per classroom basis irrespective of the wealth per pupil in the local school districts within a state. State equalization funds are distributed on the principle that the size of the allocation should be inversely proportional to the wealth of the local districts.[6] Jordan reported that in 1949-50, 44.9 percent of the states had an equalization program while in 1968-69, 77.5 percent of the states had programs of the equalization variety.[7]

The National Educational Finance Project (NEFP) summarized the fifty states into classifications of state aid. Each classification is discussed in the sections that follow. Only general purpose grants for operational use are discussed. Grants for capital outlay and debt service were omitted. Categorical grants are discussed in a later section.

Flat Grants

Flat grants are of two basic types--uniform and variable. Both uniform and variable flat grants are distributed to school districts without consideration of local taxpaying ability. Uniform flat grants are distributed on the basis of an equal amount of money per child whereas in variable flat grants pupil counts are weighted according to cost factors over which the local school district has no control. Grade level, program offering, pupil handicap and pupil sparsity are examples of cost factors. Uniform and variable flat grants may equalize in a limited manner in that wealthy districts may tend to contribute more to the state fund than the district receives in return while poorer districts may receive more than is contributed.[8]

Benson mentioned another form of the variable flat grant, the weighted population grant. Under such a plan, the state appropriates a fixed amount of money for state aid to local school districts. The appropriation is determined by the state legislature without consideration of variations in size of local school districts, variations in level of fiscal ability in local school districts or level of local expenditures. The appropriation is divided among the school districts in proportion to some measure of population. The disbursement could be determined by the percentage of the pupil population of the local school district to the total state school population. Weights may be used to account for local needs and resources to reflect differences in costs of various grade levels and programs. Advantages of weighted population grants include: (1) flexibility; (2) capability of distributing any amount of money appropriated; and (3) close control

of annual appropriations by the state legislature. Such a distribution plan is particularly effective if the amount of state appropriations varies from year to year.

Disadvantages include: (1) relevant data to compute weights are often not available; and (2) close and accurate prediction of local school aid cannot be made from state sources.[9]

Equalization Grants

Equalization type grants have been designed to take into consideration variations in the taxpaying ability of the local school district. Such grants are referred to generally as the Strayer-Haig-Mort model. Some, but not all types of equalization grants, consider educational needs of the student population. Common applications of the equalization grant concept are discussed below.

Equalization Models Utilizing Unweighted Measures of Need

The amount of state subsidy that a school district would receive from the state with an equalizing model utilizing unweighted measures of need is determined by the difference between the dollar value of a minimum foundation program and the amount of local revenue produced by a mandatory uniform qualifying tax rate times the property tax base. The formula for the foundation program may be expressed as:[10]

$$A_i = N_i u - rY_i$$

where:

A_i = subsidy to the i^{th} district

N_i = the number of pupils in the i^{th} district

u = dollar value of the foundation program

r = mandatory local tax rate

Y_i = property tax base of the i^{th} district

with $r = N_1 u/Y_1$

where:

N_1 = number of pupils in wealthiest district in the state

Y_1 = tax base in the wealthiest district in the state.

Under such a plan, each local school district could provide the standard amount per pupil, as measured by the value of the foundation program at

equivalent tax rates. If a local school district levied a higher tax rate than the state standard, the extra burden would reflect either (1) inefficiency in management or, (2) willingness of local taxpayers to support an educational program that goes beyond the state defined minimum or standard program.[11]

Equalization Models Utilizing Weighted Measures of Need

In the models where weighted measures of need are applied to equalization programs, educational needs are calculated in terms of weighted unit costs such as weighted pupils or weighted teachers which account for necessary unit cost variations. The yeild of a required local tax effort in proportion to ability to pay is subtracted from the computed weighted program cost to determine the state allocation.[12]

Percentage Equalizing Grants

The percentage equalizing grant concept provides for state aid to local school districts as a variable percentage of locally determined expenditures. The percentage varies inversely with the local taxpaying ability of school districts.

Percentage equalizing grants have been described as open ended because the amount of state subsidy increases with the level of local educational expenditures. The formula for the percentage equalizing grant may be expressed as follows:[13]

$$A_i = (1 - x \cdot Y_i / Y) E_i$$

where:

A_i = subsidy to i^{th} district,

x = arbitrary constant, where $o \leq x \leq 1$,

Y_i = assessed valuation per pupil in the i^{th} district,

Y = average assessed valuation per pupil for the state,

E_i = school expenditure in the i^{th} district.

The Guaranteed Valuation or Tax Yield Per Unit of Need Plan

Under the guaranteed valuation plan, the state guarantees to each district a fixed valuation or tax yeild per pupil or per teacher unit. The units may be weighted or unweighted. The method provides a state allocation of money to each school district computed as the difference between the yeild of a given tax levy and the equalized assessed valuation per pupil or per teacher unit which the state has previously guaranteed for the state.[14]

Complete State and Federal Support

Hawaii is unique in that public education is supported solely from state and federal sources with no local leeway. The important concept displayed by such a funding technique is that if all funds are derived from state or federal sources, then no local school district can be advantaged or disadvantaged by local relative taxpaying ability.[15]

Categorical Grants

Categorical grants are a type of allocation procedure used to support particular programs or activities. Categorical aids have provided the chief means for state government to influence the operations of local school districts. Categorical aids have taken several forms including:

1. payment of a share of local costs of a program;
2. payment of a higher share of program costs in poor districts than in rich districts;
3. a percentage equalizing type of allocation;
4. payment of the "excess costs" of a program;
5. an absolute sum of dollars for establishing a desired new program; and
6. payment expressed as an absolute sum.[16]

SECTION II

FISCAL ABILITY

Fiscal ability is generally recognized as the amount of resources available to a governmental agency to generate revenues for public purposes. The term fiscal ability is widely used interchangeably with fiscal capacity and should be considered to have an identical meaning in this report. Because of economic conditions, geographical locations, demographic factors and many other reasons, variations exist between states, counties, and school districts as to the amount of revenues available for financing education. Before any conclusions can be reached regarding the variations, parameters must be established to focus attention to the dimensions under consideration.[17] As reported in an earlier section of the study dealing with the economic bases of South Dakota, consideration is given to the wide categories of income, consumption, and wealth or property.

Johns and Morphet explained that in early America, the amount of wealth or property per capita may have been a fair estimate of the ability of a person to pay taxes, but the ownership of property no longer is an acceptable measure of the ability of the owner to pay the tax.[18] The authors pointed out that on a personal level, the most commonly accepted measure of the ability to pay taxes is the level of income.[19] The justification for the latter is the belief that in the final analysis all financial resources come from income of one sort or another. The property and income taxes are not the only tax sources available to governmental units as evidenced by the widespread consumption tax known as the sales tax. The three wider classifications of taxes have significant differences in the method of determining the amount of revenue available from each source. The income tax in particular, but the consumption tax as well, are dependent to a large extent upon the economic activity of the state, county, or local unit. While the measures may fluctuate over time, many studies use per capita income or per household income as a basis for measuring fiscal capacity. For example, a 1969 study by Johns and Hamilton reported that South Dakota ranked 35th among the 50 states when listing gross personal income per capita and providing an allowance for $750 of basic expenditures and providing for federal income taxes.[20] South Dakota ranked 34th in net personal income per capita in the same study. It may be beneficial to point out that of the fifteen states below South Dakota in ranking, only Maine, North Dakota, Utah, Idaho, and New Mexico were outside the southern states.

In a 1971 research report from NEA, South Dakota ranked 40th in personal income per school age child and 43rd in personal income per child in average daily membership (ADM).[21] The study did not reveal reasons explaining the jump from 40 to 43. On the surface,

an explanation could be that several students are in non-public schools or are not attending school. Once again, states ranking lower than South Dakota included Idaho, New Mexico, Utah, and several southern states.

Tables 6, 7 and 8 in the section of this report dealing with the economic bases of total personal income and per capita income of South Dakota, selected neighboring states and the United States, presented data leading to the conclusion that although South Dakota ranks well below the national averages in fiscal ability as measured by income, the increase in the decade of the sixties was favorable.

The sales tax, a tax on consumption, is generally considered as regressive. That is, the tax falls most heavily on groups with the lowest levels of incomes. The National Educational Finance Project reported that revenues from sales taxes generally increase at about the same rate as income.[22] Retail sales for South Dakota, as shown in Table 9 of the preceding section dealing with economic bases, have shown sizable increases in volume for South Dakota. Although the fiscal ability of the state as measured by retail sales is not high compared with neighboring states and the United States, favorable trends indicative of increased revenues are to be noted. If complemented with state taxes that are less regressive in nature, for example, an income tax with a graduated rate structure, the sales tax provides a desirable alternative for state taxation in South Dakota.

The third measure of fiscal ability is assessed valuations of real and personal property. An analysis of the property tax base in South Dakota, Table 10, in the section dealing with economic bases of the state, revealed that locally assessed real property valuations showed greater increases than for any of the other six states in the comparison for the years 1956 and 1966. The base, as shown in Table 11, expanded by nearly 50 percent between 1962 and 1972.

Although the property tax has come into disfavor because it places a heavy tax on housing, is subject to inequities in assessments, is highly regressive and lacks elasticity with regard to yield, the tax has remained the largest producer of local revenues for schools throughout the nation.[23] In many states, South Dakota included, the tax provides the majority of the fiscal support for public education. The NEFP reported that the elasticity of the property tax is 0.8. That is, when national income increases one percent, property tax revenues are increased by 0.8 percent.[24]

Local Fiscal Ability

Property taxes for schools in South Dakota are collected almost entirely at the local level. Therefore, assessed valuations per pupil provide a valid unit for the study of local fiscal abilities. The remaining part of this section of the report deals with an analysis of local assessed valuations as a determinant of variations in local fiscal ability. Because of unique variations in type of school districts,

several school districts were omitted for purposes of refinement of the analyses. School districts which were excluded are summarized in Table 15 under columns describing unique characteristics judged to warrant exclusion. In addition, all 36 common school districts were excluded. Therefore, the selected sample consisted of 176 independent school districts.

The selected sample of 176 school districts were ranked from highest to lowest by local fiscal ability as measured by local assessed valuation per student in average daily membership (ADM). The respective wealth ratios and rankings are reported in colums two and three respectively of Table 16. Column four was included to show relative fiscal ability per ADM if the maximum rates of 24 mills and 40 mills were levied on local agricultural and non-agricultural property as assessed for the school year of 1971-72. The school districts were ranked from high to low by the potential amounts of revenue that could have been available under existing statutory regulations with current assessment practices. The alternative of an additional 10 mills by local referendum was omitted from the computations, because an assumption that such an option is equally open for approval in all communities does not appear sound.

TABLE 15. South Dakota School Districts Excluded from Local Fiscal Ability Analysis

Superimposed High School	Contracting With Another State	In Excess of 60 Percent Federally Financed
Bennett County H.S.	Big Stone 5	Douglas
Hoven High School	Big Stone 10	Eagle Butte
Stanley County High School	Browns Valley	Shannon County
Sully Superimposed High School	Elk Mountain	Smee
	Greater Scott	Todd County
	Hendricks	
	Hermanson	
	Hoyt	
	Northwest	
	Wachter	

The data in column six were included to show the potential amounts of local property tax revenue per ADM that could have been available if all property were assessed at true and full value and taxes were levied on the statutory level of 60 percent of the true and full value. The school districts were ranked from high to low under such conditions and the respective rankings are reported in column 7. The Fairview school district was omitted in columns 4-7 because the district did not operate an elementary school in 1971-72 and was

TABLE 16. Fiscal Ability Per ADM and Rankings by Three Selected Measures--176 Selected South Dakota Independent School Districts, 1971-1972

School District	Assessed Valuations Per ADM 1971-1972	Rank	Maximum Revenue Per ADM: Present Percent	Rank	Maximum Revenue Per ADM: At 60 Percent	Rank
Harding	$ 56,360	1	$1,427	1	$2,467	1
Fairview	55,982	2	(Did not operate elementary school)			
Draper	52,973	3	1,388	2	2,058	2
Forrestburg	40,614	4	1,019	5	1,420	7
Oelrichs	40,292	5	1,060	3	1,762	3
Bison	38,848	6	1,015	6	1,650	4
Crestbard	37,769	7	961	7	1,267	16
Wakonda	37,621	8	955	8	1,298	14
Harrold	36,999	9	931	10	1,413	8
Midland	36,737	10	1,027	4	1,595	5
Haakon	36,250	11	947	9	1,458	6
Doland	35,389	12	904	14	1,342	11
Conde	34,898	13	900	15	1,330	12
Wood	34,801	14	894	16	1,402	9
Lyman	34,671	15	922	11	1,366	10
Glenham	33,510	16	906	13	1,225	17
Plankinton	32,964	17	871	17	1,186	18
Murdo	32,628	18	909	12	1,320	13
Oldham	31,922	19	817	24	1,110	31
Hitchcock	31,894	20	804	28	1,168	21
Gayville Volin	31,448	21	828	22	949	56
Tulare	31,409	22	789	32	1,151	25
Java	31,295	23	817	25	1,120	27
Freeman	30,853	24	867	18	1,114	29
Centerville	30,649	25	814	26	1,064	39
Sully Buttes	30,280	26	823	23	1,268	15
Roscoe	30,266	27	809	27	1,120	28
Menno	30,175	28	829	21	1,051	41
Northwestern	30,144	29	775	34	1,153	24
Bowdle	29,843	30	835	19	1,104	34
Langford	29,426	31	763	35	1,084	35
Platte	29,162	32	804	29	1,033	43
Irene	29,106	33	751	38	874	79
Rutland	28,970	34	717	48	937	60
Wall	28,957	35	832	20	1,178	19

TABLE 16 (Continued)

School District	Assessed Valuations Per ADM 1971-1972	Rank	Maximum Revenue Per ADM: Present Percent	Rank	Maximum Revenue Per ADM: At 60 Percent	Rank
Eureka	$ 28,738	36	$ 794	31	$1,158	23
Alcester	28,707	37	763	36	1,110	32
Ipswich	28,627	38	786	33	1,081	37
Bristol	28,430	39	762	37	1,021	45
Groton	28,327	40	739	40	1,161	22
Artesian	28,135	41	711	50	980	48
Hurley	27,991	42	736	41	993	49
Wessington	27,831	43	724	43	1,082	36
Kimball	27,720	44	721	45	1,128	26
Warner	27,637	45	709	53	1,111	30
Delmont	27,596	46	716	49	997	48
Gecdes	27,343	47	710	51	960	55
Willow Lake	26,966	48	703	56	976	51
Carthage	26,923	49	702	58	905	71
Hyde	26,667	50	721	46	1,110	33
Hanson	26,643	51	704	55	923	64
Tripp	26,532	52	741	39	936	61
Ramona	26,457	53	675	64	868	82
Wessington Springs	26,454	54	703	57	973	52
Faulkton	26,417	55	710	52	930	63
Miller	26,354	56	720	47	1,030	44
Selby	26,061	57	724	44	961	54
Calome	25,978	58	663	70	1,074	38
New Effington	25,784	59	676	63	843	90
Mount Vernon	25,735	60	655	75	920	66
Canistota	25,638	61	726	42	879	75
Kadoka	25,627	62	702	59	1,169	20
Bradley	25,518	63	661	71	916	67
Corsica	25,359	64	675	65	923	65
Scotland	25,217	65	682	61	855	88
Wolsey	25,175	66	671	67	947	57
Viborg	25,171	67	691	60	909	70
Tri County	25,043	68	679	62	910	69
Corona	24,883	69	622	85	802	100
White Lake	24,812	70	639	79	874	80

TABLE 16 (Continued)

School District	Assessed Valuations Per ADM 1971-1972	Rank	Maximum Revenue Per ADM			
			Present Percent	Rank	At 60 Percent	Rank
Canova	$ 24,803	71	$ 642	78	$ 810	97
Lake Preston	23,949	72	651	76	886	74
Alpena	23,926	73	626	84	876	78
West River	23,832	74	658	73	1,059	40
Howard	23,730	75	661	72	789	103
Iroquois	23,676	76	607	88	867	84
Veblen	23,583	77	615	87	837	91
Beresford	23,349	78	656	74	888	73
Clark	23,298	79	651	77	855	89
Gregory	23,122	80	668	69	963	53
Salem	23,048	81	631	82	818	96
Rosholt	22,979	82	633	80	782	106
Pollock	22,933	83	799	30	1,021	46
South Shore	22,597	84	580	103	795	101
North Brown	22,530	85	605	91	916	68
Newell	22,475	86	606	89	1,014	47
Hamlin	22,395	87	620	86	824	94
Leola	22,328	88	585	100	869	81
Avon	22,304	89	591	96	746	120
Timber Lake	22,273	90	675	66	1,034	42
Egan	22,260	91	575	108	804	98
Herreid	22,140	92	601	92	776	108
Grant Deuell	22,124	93	560	113	755	116
Elkton	22,069	94	577	107	752	117
Florence	21,922	95	559	114	804	99
Marion	21,642	96	670	68	868	83
Tri Valley	21,553	97	580	104	877	77
Isabel	21,353	98	587	99	943	58
Dell Rapids	21,320	99	598	93	878	76
Estelline	21,300	100	583	102	761	113
Winner	21,278	101	606	90	943	59
Astoria	21,231	102	550	121	748	119
Burke	21,140	103	589	98	864	85
Fairfax	21,110	104	556	116	835	92
Vermillion	21,000	105	705	54	857	87

TABLE 16 (Continued

School District	Assessed Valuations Per ADM 1971-1972	Rank	Maximum Revenue Per ADM			
			Present Percent	Rank	At 60 Percent	Rank
Britton	$ 20,943	106	$ 584	101	$ 792	102
Hudson	20,756	107	592	95	737	125
Spencer	20,739	108	579	105	788	104
Stickney	20,707	109	538	128	740	123
New Underwood	20,575	110	627	83	901	72
Parkston	20,490	111	579	106	742	122
Henry	20,357	112	534	131	763	112
Flandreau	20,242	113	570	110	780	107
Clear Lake	20,185	114	535	129	729	129
Colman	20,144	115	555	118	765	111
Ethan	20,114	116	522	138	704	137
Arlington	20,088	117	545	124	723	132
Deubrook	19,939	118	527	133	696	141
White River	19,915	119	509	142	761	114
Waverly	19,820	120	485	156	707	136
Chester	19,819	121	525	136	700	139
Hosmer	19,711	122	519	139	734	127
Jefferson	19,553	123	556	117	825	93
Letcher	19,463	124	506	144	680	147
Montrose	19,445	125	539	126	774	109
De Smet	19,419	126	549	122	734	128
Wilmot	19,402	127	525	137	635	157
Redfield	19,290	128	591	97	788	105
Lemmon	19,157	129	573	109	859	86
Canton	18,985	130	552	119	677	148
Bon Homme	18,927	131	535	130	671	150
Harrisburg	18,723	132	513	141	625	162
Armour	18,677	133	539	127	728	130
Bone Steel	18,424	134	498	148	727	131
Milbank	18,271	135	558	115	696	142
Parker	18,214	136	498	149	681	146
Lennox	18,161	137	505	145	645	155
Sioux Valley	17,940	138	499	147	633	159
Custer	17,890	139	566	111	931	62
Webster	17,765	140	543	125	692	143

TABLE 16 (Continued

School District	Assessed Valuations Per ADM 1971-1972	Rank	Maximum Revenue Per ADM Present Percent	Rank	At 60 Percent	Rank
Yankton	$ 17,684	141	$ 632	81	$ 684	144
Chamberlain	17,575	142	519	140	744	121
Meade	17,483	143	505	146	737	126
Summit	17,455	144	436	165	542	170
Rosyln	17,355	145	468	161	633	160
Cary	16,906	146	472	159	626	161
East Charles Mix	16,811	147	469	160	605	164
Baltic	16,610	148	487	154	739	124
McIntosh	16,537	149	490	151	770	110
Castlewood	16,367	150	434	167	586	166
Brandon Valley	16,357	151	551	120	709	135
Garretson	16,288	152	445	164	676	149
Mitchell	16,176	153	594	94	756	115
Lake Central	16,095	154	526	134	664	152
Woonsocket	16,045	155	460	163	584	167
Brookings	15,634	156	563	112	704	138
Edgemont	15,231	157	490	152	698	140
West Central	15,051	158	425	168	651	154
Gettysburg	14,433	159	526	135	684	145
Pierce	14,140	160	533	132	634	158
Watertown	14,133	161	508	143	668	151
McLaughlin	14,000	162	392	172	602	165
Lead Deadwood	13,907	163	548	123	822	95
Andes Central	13,881	164	396	171	508	173
Aberdeen	13,510	165	495	150	751	118
Belle Fourche	13,438	166	461	162	653	153
Spearfish	13,309	167	478	157	719	133
Huron	13,095	168	473	158	637	156
Elk Point	12,942	169	379	173	553	169
Hot Springs	12,476	170	415	169	616	163
Waubay	12,441	171	357	174	455	174
Sioux Falls	12,363	172	488	153	712	134
Mobridge	12,341	173	486	155	532	172
Hill City	11,942	174	435	166	572	168
Sisseton	10,565	175	314	175	375	175
Rapid City	10,116	176	398	170	538	171

Sources: Compiled from: (1) data supplied by the South Dakota Department of Public Instruction and (2) data taken from ASBSD Bulletin, Vol. XXVI, No. 8, April 15, 1973, p. 2.

therefore under a different statutory millage limitation than the other 175 school districts in the comparison. Harding County Independent District No. 4 ranked first for all three measures.

With regard to fiscal ability as measured by local assessed valuation per ADM, Harding County Independent District No. 4 had nearly six times the fiscal ability of the Rapid City Independent District No. 1, which ranked 176 in the comparison.

When comparisons were made based on potential local revenue per ADM at current assessment percentages, Sisseton Independent No. 1 moved to the last place ranking (175 because of the omission of Fairview Independent No. 1) with a differential of about four times the fiscal ability in Harding as in Sisseton. Rapid City moved up to 170 in the comparison.

When fiscal ability was based on maximum potential local revenue if maximum rates were levied at the statutory 60 percent level of true and full property value, Sisseton retained the last place ranking with a ratio of about 1:5 with Harding.

The inadequacies of current local property assessment practices were clearly demonstrated by the wide variatons in fiscal ability rankings for many of the school districts.

To bring the variations in local fiscal ability as measured by assessed valuations per ADM into clearer focus, the data were collapsed into ten frequency intervals of $5,000 each. The number of districts in each interval and the actual range in fiscal ability within the interval are shown in Table 17. Only three school districts, Harding, Fairview and Draper, had in excess of $41,000 per ADM as a local property tax base. Nine districts fell between $35,389 and $40,614 per ADM. The remaining 164 districts provide a remarkably normal distribution between $10,116 and $34,898 per ADM.

When size of the school districts in ADM by selected intervals was compared with fiscal ability by selected categories of assessed valuation per ADM, the revelation of a distinctly inverse relationship between size of school district and fiscal ability was noted. An analysis of the data in Table 18 clearly demonstrates such a phenomenon. The eleven largest school districts have less than $20,000 per ADM while the 29 districts with the highest fiscal ability have fewer than 750 students in ADM.

TABLE 17. Frequencies and Range of Assessed Valuations per ADM by Selected Intervals--South Dakota, 1971-1972

Assessed Valuation Per ADM Interval	Number of Districts	Actual Range High	Low
$55,000 - $59,999	2	$56,360 -	$55,982
50,000 - 54,999	1	$52,973	
45,000 - 49,999	0		
40,000 - 44,999	2	40,614 -	40,293
35,000 - 39,999	7	38,848 -	35,389
30,000 - 34,999	17	34,898 -	30,144
25,000 - 29,999	39	29,843 -	25,043
20,000 - 24,999	49	24,883 -	20,088
15,000 - 19,999	41	19,939 -	15,051
10,000 - 14,999	18	14,433 -	10,116
	176	Mean A.V. = $23,620	

Source: Compiled from data supplied by the South Dakota Department of Public Instruction.

TABLE 18. Frequencies of Assessed Valuations Per ADM for Selected Categories of School Districts by Size in ADM, 1971-1972

Assessed Valuation Per ADM	Under 250	250 to 499	500 to 749	750 to 999	1,000 to 1,249	1,250 to 1,499	1,500 to 1,999	2,000 to 2,999	3,000 to 3,999	4,000 and over
$55,000 - $59,999	1	1								
50,000 - 54,999	1									
45,000 - 49,999										
40,000 - 44,999	2									
35,000 - 39,999	2	4	1							
30,000 - 34,999	5	8	4							
25,000 - 29,999	9	16	10	3	1					
20,000 - 24,999	13	15	9	9	1		2			
15,000 - 19,999	4	14	6	4	5	2	1	2	3	
10,000 - 14,999		1	5		2	3	1	1	2	3
TOTALS	37	59	35	16	9	5	4	3	5	3

Source: Compiled from data supplied by the South Dakota Department of Public Instruction.

Table 19 was included to show a geographic distribution of the districts by fiscal ability. The six South Dakota Planning Districts, as shown in Figure 1 of the introductory secton of the report, were selected as convenience geographic groups.

TABLE 19. Frequencies of Assessed Valuations per ADM by Selected Intervals--South Dakota Planning Districts, 1971-1972

Assessed Valuation Per ADM	Planning District						
	I	II	III	IV	V	VI	Totals
$55,000 - $59,999				1		1	2
50,000 - 54,999					1		1
45,000 - 49,999							0
40,000 - 44,999			1			1	2
35,000 - 39,999		1		2	4		7
30,000 - 34,999	1	1	4	5	6		17
25,000 - 29,999	5	5	12	12	3	2	39
20,000 - 24,999	17	8	9	7	6	2	49
15,000 - 19,999	10	10	9	6	3	3	41
10,000 - 14,999	1	2	1	4	4	6	18
TOTALS	34	27	36	37	27	15	176

Source: Compiled from data supplied by the South Dakota Department of Public Instruction.

The greatest extrems in fiscal ability occur in Regions IV and VI while Region I shows the least variation.

Relationships between fiscal ability by selected categories of assessed valuation per ADM and size of school district in ADM are shown for each of the six planning districts in Tables 20 through 25.

TABLE 20. Frequencies of School Districts by Selected Categories of Fiscal Ability and Size, South Dakota Planning District I, 1971-1972

Assessed Valuation Per ADM	Size of School District in ADM										
	Under 250	250 to 499	500 to 749	750 to 999	1,000 to 1,249	1,250 to 1,499	1,500 to 1,999	2,000 to 2,999	3,000 to 3,999	4,000 and over
$55,000 - $59,999										
50,000 - 54,999										
45,000 - 49,999										
40,000 - 44,999										
35,000 - 39,999										
30,000 - 34,999	1									
25,000 - 29,999	4	1								
20,000 - 24,999	6	5	2	4						
15,000 - 19,999	2	3	2			1	1			1
10,000 - 14,999									1	
TOTALS	13	9	4	4		1	1		1	1

n = 34

TABLE 21. Frequencies of School Districts by Selected Categories of Fiscal Ability and Size, South Dakota Planning District II, 1971-1972

Assessed Valuation Per ADM	Size of School District in ADM									
	Under 250	250 to 499	500 to 749	750 to 999	1,000 to 1,249	1,250 to 1,499	1,500 to 1,999	2,000 to 2,999	3,000 to 3,999	4,000 and over
$55,000 - $59,999										
50,000 - 54,999										
45,000 - 49,999										
40,000 - 44,999										
35,000 - 39,999		1								
30,000 - 34,999		1								
25,000 - 29,999		4	1							
20,000 - 24,999	2	1	2	2			1			
15,000 - 19,999	1	3	2	1	2	1				
10,000 - 14,999			1							1
TOTALS	3	10	6	3	2	1	1			1

n = 27

TABLE 22. Frequencies of School Districts by Selected Categories of Fiscal Ability and Size, South Dakota Planning District III, 1971-1972

Assessed Valuation Per ADM	Size of School District in ADM									
	Under 250	250 to 499	500 to 749	750 to 999	1,000 to 1,249	1,250 to 1,499	1,500 to 1,999	2,000 to 2,999	3,000 to 3,999	4,000 and over
$55,000 - $59,999										
50,000 - 54,999										
45,000 - 49,999										
40,000 - 44,999	1									
35,000 - 39,999										
30,000 - 34,999		3	1							
25,000 - 29,999	3	4	4	1						
20,000 - 24,999	2	4	1	1	1					
15,000 - 19,999	1	3		1	1	1			2	
10,000 - 14,999			1							
TOTALS	7	14	7	3	2	1			2	

n = 36

TABLE 23. Frequencies of School Districts by Selected Categories of Fiscal Ability and Size, South Dakota Planning District IV, 1971-1972

Assessed Valuation Per ADM	Size of School District in ADM									
	Under 250	250 to 499	500 to 749	750 to 999	1,000 to 1,249	1,250 to 1,499	1,500 to 1,999	2,000 to 2,999	3,000 to 3,999	4,000 and over
$55,000 - $59,999	1									
50,000 - 54,999										
45,000 - 49,999										
40,000 - 44,999										
35,000 - 39,999		2								
30,000 - 34,999	1	3	1							
25,000 - 29,999	2	5	2	2	1					
20,000 - 24,999	1	2	2	2						
15,000 - 19,999		4			2					
10,000 - 14,999			1				1		1	1
TOTALS	5	16	6	4	3		1		1	1

n = 37

TABLE 24. Frequencies of School Districts by Selected Categories of Fiscal Ability and Size, South Dakota Planning District V, 1971-1972

Assessed Valuation Per ADM	Size of School District in ADM									
	Under 250	250 to 499	500 to 749	750 to 999	1,000 to 1,249	1,250 to 1,499	1,500 to 1,999	2,000 to 2,999	3,000 to 3,999	4,000 and over
$55,000 - $59,999										
50,000 - 54,999	1									
45,000 - 49,999										
40,000 - 44,999										
35,000 - 39,999	2	1	1							
30,000 - 34,999	3	1	2							
25,000 - 29,999		2	1							
20,000 - 24,999	2	2	1				1			
15,000 - 19,999			2	1						
10,000 - 14,999			2		1				1	
TOTALS	8	6	9	1	1		1		1	

n = 27

TABLE 25. Frequencies of School Districts by Selected Categories of Fiscal Ability and Size, South Dakota Planning District VI, 1971-1972

Assessed Valuation Per ADM	Size of School District in ADM									
	Under 250	250 to 499	500 to 749	750 to 999	1,000 to 1,249	1,250 to 1,499	1,500 to 1,999	2,000 to 2,999	3,000 to 3,999	4,000 and over
$55,000 - $59,999		1								
50,000 - 54,999										
45,000 - 49,999										
40,000 - 44,999	1									
35,000 - 39,999										
30,000 - 34,999										
25,000 - 29,999			2							
20,000 - 24,999		1	1							
15,000 - 19,999		1		1				1		
10,000 - 14,999		1			1	2		1		1
TOTALS	1	4	3	1	1	2		2		1

n = 15

Fiscal Ability Correlations

Briley conducted a study for the NEFP in revenue variation and financial ability for each state in the United States.[25] Briley studied a selected distribution of 17 school districts in South Dakota from the wealthiest school district, Mitchell Independent School District No. 45, to the poorest school district, Douglas Independent School District No. 3. The study was conducted using 1968-69 data. The findings for South Dakota were that a ratio of 12.89 existed between the richest school district and the poorest school district with an ADM of 1,300 pupils or more. Briley reported that the ratio of revenue per pupil in the district having the greatest amount of revenue to the district having the least amount was 1.75. Briley statistically correlated the per pupil revenues available from local sources, basic state sources, state categorical sources, and federal sources with the wealth per pupil in the school districts of the state. Briley found the correlation of local revenue per pupil to the wealth per pupil in South Dakota was +0.88. The correlation was found to be statistically significant at the .01 level. The interpretation of the 0.88 correlation was that there is a significantly high positive correlation between per pupil revenues available at the local level and the local wealth per pupil. The districts with the greatest wealth received the greatest amount of revenue at the local level. Briley further found that the correlation between the per pupil revenues at the state level for the basic state program and the local wealth measure per pupil was -0.83, significant at the .01 level. The interpretation of the correlation was that South Dakota apportions the basic state funds inversely to the ability of the local school district. State categorical revenue had a correlation between per pupil revenue and the wealth per pupil of +0.35. The correlation was not statistically significant. State categorical revenue was not nearly as great an equalizing effect as the basic state revenue. If anything, the correlation revealed that the categorical state aid had a tendency to disequalize the school districts. When federal revenues were investigated and the per pupil revenue was correlated with the wealth per pupil fo each district, the correlation was -0.68, significant at the .01 level. The low wealth school districts received more federal revenue per pupil than did the high wealth school districts.

The findings of Briley revealed that local revenue clearly disequalized and state categorical revenue tended to disequalize while the basic state allocations and federal allocations were equalizing. Therefore, the goal of fiscal equalization of educational opportunity was far from being attained. The facts suggested that basic state allocations and federal allocations needed to be increased while the local sources of revenue and state categorical allocations needed to be reduced to enhance the financial equalization of educational opportunity within the state.

Summary

Compared to neighboring states and the United States average, the state fiscal ability of South Dakota for financing public education is adequate. Although the state fiscal ability may be described generally as somewhat below the average for the nation, both retail sales and income for the state have shown increases for the period studied which were higher than some of the neighboring states and comparable to percentage increases for the nation.

Wide disparities exist among local school districts with regard to fiscal ability for local support of education. When measured by local assessed valuation per student in average daily membership, the school district with the highest fiscal ability among the sample of 176 independent school districts studied had nearly six times the fiscal ability of the lowest wealth district.

The differential was somewhat reduced when fiscal ability was measured by potential local revenue per pupil at current levels of assessments. Potential revenue at statutory levels of assessment tended to widen the disparity slightly compared to potential revenue at current levels of assessments.

Wide differences in rankings of school districts were observed between potential revenue at current levels of assessments versus the statutory level of 60 percent of full and true value applied independently as measures of local fiscal capacity.

SECTION III

FISCAL EFFORT

Fiscal effort has been generally defined as the extent to which governmental agencies tax available resources to finance public projects. More specifically applied to public education, fiscal effort may be defined as the fiscal exertion applied by a level of government toward providing educational programs.

The National Educational Finance Project staff studied not only fiscal capacity but fiscal effort. In reporting on the Johns and Hamilton study, the NEFP utilized the personal income tax in Oregon (four to ten percent progressive), a seven percent corporate income tax, and a five percent sales tax to estimate the amount of dollars which could become available to the fifty states. South Dakota was found to be able to generate $235 per capita using the three taxes. The $235 figure would place the state of South Dakota as number 21 in a ranking of the fifty states.[26] The NEFP also reported:

> The NEFP staff used several measures to examine the extent of the effort being made by the various states to support local governmental functions in relation to their fiscal capacity . . . In 1969 the general revenue available to state and local governments from their own tax sources totaled $95,011 billion. Over one-third of this amount, $32,069 billion, consisted of state and local revenue for elementary and secondary education. When expressed as a percentage of net personal income, the general revenue of state and local government accounted for nearly 18.5 percent of net personal income, with a 6.24 percent of net personal income being allotted for elementary and secondary education. The percentage of net personal income devoted to elementary and secondary education ranged from a high of 8.9 percent in New Mexico to a low of 5.0 percent in Nebraska. [South Dakota ranked 34th with 5.91 percent.] It was found that 33.75 percent of the general revenue of state and local governments consisted of revenue for elementary and secondary education. The percentage ranged from a high of 39.73 percent in Utah to a low of 25.51 percent in Wyoming. [South Dakota ranked 48th with 27.15 percent.][27]

The Advisory Commission on Intergovernmental Relations in 1966-67 conducted a study of state and local fiscal capacity and effort to determine the difference between the capacity of a particular state to raise revenue and the revenue raised. The capacity was based on the

the national average. South Dakota has the ability to raise revenues at a 101 rate based on a national average of 100.[28] In other words, South Dakota was found to have the capability to generate revenue slightly above the national average.

Differences exist not only between states but between districts. The NEFF reports that variations between school districts are greater than the variations between states.[29] Rossmiller, Hale, and Frohreich studied seven categories of school districts from major urban districts to small towns in an effort to relate fiscal capacity to local revenues available from property, income, and sales.[30] Retail sales and effective buying income were found to be correlated negatively to the market value of property per pupil in average daily membership. In the same study, changes in fiscal capacity from 1962 to 1967, attributed to effective buying income on either a per capita or per household basis, provided "the major source of variation in fiscal capacity among the school districts."[31]

State Fiscal Effort

In an earlier section of the report, dealing with sources of state and local revenue, the primary source of state revenue for South Dakota was established as a tax on retail sales. Although various forms of taxation on incomes have been considered by recent sessions of the South Dakota Legislature, such a tax had not been adopted at the time the study was conducted. Comparisons of sources of revenue for the school year 1970-71, by major levels of government for South Dakota, six selected neighboring states and the United States, as reported in Table 26, revealed that the state fiscal effort exerted in South Dakota is low. Based on the observation with regard to fiscal ability, likewise noted in earlier sections of the report, state fiscal effort is not commensurate with the fiscal ability of South Dakota.

Local Fiscal Effort

For purposes of analyzing local fiscal effort, the same 176 school districts that were identified for the study of fiscal ability were utilized. Among the several alternatives for measuring local fiscal exertion, annual current operating expenditures per student in average daily membership was selected as a defensible unit of measure for comparative analysis. Expenditures for special education are accounted for separately from other current operating expenditures (General Fund expenditures), because of South Dakota statutory funding considerations. However, because such expenditures are most appropriately classified as a part of the current operation for participating schools, the two were combined to arrive at total current operating expenditures for each of the selected 176 school districts.

TABLE 26. Percentages of Revenue by Major Governmental Source--South Dakota, Six Selected Neighboring States and the United States Average, 1970-1971

State	Percentage of Revenues		
	Local	State	Federal
South Dakota	72.3	13.8	13.9
Iowa	71.0	24.3	4.7
Minnesota	47.0	47.4	5.6
Montana	70.5	24.0	5.5
Nebraska	73.8	18.0	8.2
North Dakota	59.4	27.9	12.7
Wyoming	59.3	22.5	18.2
United States	52.1	39.4	8.4

Source: Expenditures and Revenues for Public Elementary and Secondary Education, 1970-1971, National Center for Educational Statistics, U.S.O.E.

A distribution of the South Dakota school districts according to fiscal effort exerted during the 1971-72 school year is shown in Table 27. Eleven selected categories of fiscal ability from low to high, as measured by assessed variation per ADM, are sequenced in column one. The number of districts that fall within each category of fiscal ability are shown in column two whereas columns three and four show the high and low annual operating expenditures per student in ADM for each fiscal ability category. The average or arithmetic mean per pupil expenditure for each category is shown in column five. The bottom line, that is, line 12 of the table, provides a summary for the total sample of 176 selected independent school districts.

A direct relationship is to be noted between expenditures per pupil and fiscal ability of the school districts. Generally, greater fiscal ability in South Dakota is associated with larger per pupil expenditures. The average assessed valuation per student in ADM was $23,620 and the average current operating expenditure per student member in ADM was $791 for the 176 districts during 1971-72. The expenditure per pupil appears to be a function of the local fiscal ability.

The ten school districts with the highest expenditure per pupil and the ten districts with the lowest per pupil expenditures were selected from the total sample of 176 school districts to observe for differences among the extremes in local effort as measured by local tax rates for the year 1971-72. The data was reported in Table 28.

TABLE 27. Range and Average of Current Operating Expenditures Per ADM by Selected Categories of Local Fiscal Ability--176 Selected South Dakota Independent School Districts, 1971-1972[a]

AV/ADM	Number of Districts	Expenditures Per ADM		Average Annual Expenditures Per ADM
		High	Low	
10,000 - 12,499	7	866	721	721
12,500 - 14,999	11	855	650	707
15,000 - 17,499	16	959	619	742
17,500 - 19,999	25	938	643	724
20,000 - 22,499	32	928	601	755
22,500 - 24,999	17	876	663	802
25,000 - 27,499	22	915	668	817
27,500 - 29,999	17	968	703	791
30,000 - 32,499	11	966	675	843
32,500 - 34,999	6	1,053	755	905
35,000 up	12	1,388	844	1,054
All districts	176	1,388	601	791

Mean A.V. = $23,620

[a]All data were rounded to the nearest whole dollar.

Source: Compiled from information supplied by the South Dakota Department of Public Instruction.

Although the impact of lesser local wealth coupled with an excess of 80 percent of fiscal support coming from local sources is not as great as might have been surmised, with a few exceptions, the local tax rates were generally higher for the lower expenditure and lower wealth districts. Four districts in the lowest expenditure category levied maximum statutory rates on both classifications of property while only one in the highest category levied the maximum for 1971-72.

The final analysis of fiscal effort was a comparison of current operating expenditures per student in ADM with size of school district utilizing ten selected size categories for students in ADM. The data are summarized in Table 29. The high and low per pupil expenditure for each district size category are shown in columns three and four respectively while the mean or average per pupil expenditure for each size category is shown in column five.

Generally, an inverse relationship can be noted between size and fiscal effort as measured by per pupil expenditures in ADM. That is, with a few exceptional categories, as the size of the school district increases, the expenditure per pupil decreases. Two variables that could contribute to such an inverse relationship should be noted.

TABLE 28. Local Tax Rates for Operation and Assessed Valuations Per ADM for the Ten Lowest and the Ten Highest Expenditure Per Pupil School Districts from 176 Selected Independent Districts, 1971-1972.

Name of District	Assessed Valuation Per ADM	Expenditures Per ADM	Millage Tax Rates	
			Agriculture Levy	Non-Agriculture Levy
Lowest Expenditure				
Stickney	$20,707	$ 601	20.65	33.30
Garretson	16,288	619	24.00	40.00
Rapid City	10,116	639	24.00	40.00
Webster	13,758	643	24.00	40.00
Pierre	13,883	650	21.08	34.16
Montrose	12,553	658	21.16	34.32
Gettysburg	12,956	660	20.94	33.88
Lennox	13,662	660	20.68	33.36
Beresford	12,537	663	20.18	32.36
Elk Point	12,824	663	24.00	40.00
Highest Expenditure				
Cresbard	37,769	988	19.91	31.82
Midland	36,737	1,017	20.67	33.34
Draper	52,973	1,033	15.88	23.76
Bison	38,848	1,039	21.44	34.88
Wood	34,801	1,053	24.00	40.00
Harrold	36,999	1,097	21.94	35.88
Forrestburg	40,614	1,115	24.00	40.00
Harding	56,360	1,176	15.84	23.68
Oelrichs	40,293	1,189	23.37	38.74
Fairview[a]	55,982	1,388	13.51	19.02

[a]High School only

Source: Information from Reports, South Dakota Department of Public Instruction.

TABLE 29. Range and Average Annual Operating Expenditures Per ADM by Selected Categories of Size in ADM--176 Selected South Dakota Independent School Districts, 1971-1972

ADM	Number of Districts	Expenditures Per ADM		Average Expenditure Per ADM
		High	Low	
Under 250	37	$1,388	$703	$893
250 - 499	59	1,176	601	786
500 - 749	35	959	619	780
750 - 999	16	899	663	741
1,000 - 1,249	9	851	643	718
1,250 - 1,499	5	731	667	708
1,500 - 1,999	4	866	698	775
2,000 - 2,999	3	800	667	722
3,000 - 3,999	5	854	650	711
4,000 and over	3	684	639	669
All Districts	176	1,388	601	791

Source: Information supplied by South Dakota Department of Public Instruction.

A. All data were rounded to nearest whole.

B. High School only. The second highest expenditure per pupil in ADM for the smallest district category occurred in a school district which accommodated grades 1-12. The per pupil expenditure was $1,189.

The analysis of local fiscal ability showed that, in general, the larger school districts have lower assessed valuations per pupil while the smaller districts tend to have larger available resources for local taxation. Therefore, the larger districts are more subject to the constraint of maximum statutory local levies. Secondly, economies of scale realized by larger student populations may tend to contribute to lower per pupil costs. However, both the highest and the lowest per pupil expenditures occurred in school districts with fewer than 500 students in average daily membership. The range of expenditures was much greater among the smaller school districts. Extreme sparsity of population is an obvious factor for increased cost in a few districts.

Summary

The state fiscal effort for financing public education in South Dakota is well below the effort of neighboring states and the national average for the states. South Dakota is contributing less than 14 percent of public school revenues from state sources while the average for the nation is approaching 40 percent. For other states in the comparison, the range of percentages for state support was from a low of 18 percent in Nebraska to a high of 47 percent in Minnesota.

Local fiscal effort is generally high compared with other states and the national average. However, wide disparities occur in fiscal effort among local school districts in South Dakota. In general, the larger districts are exerting more local effort by size of tax levy comparisons, but the smaller districts are spending more per pupil. Exceptions to such a generalization were observed but trends were apparent.

Conclusions

The following conclusions, drawn from the analysis presented above, served as a basis for the recommendations for future financing of public elementary and secondary education in the state of South Dakota.

1. General populations in the state of South Dakota will not likely experience major increases during the decade of the seventies. However, population will likely continue to shift with the southeastern and west central regions continuing to increase because of employment patterns within the state.

2. The population of South Dakota is becoming a younger population particularly in the currently more populous areas of the state where employment opportunities tend to attract younger residents with children. The effect of such a shift is not anticipated to have a major impact on the numbers of children to be enrolled in public schools in most regions of the state.

3. Modest decreases in school enrollments generally can be anticipated for the decade of the seventies.

4. The economy for the state of South Dakota is generally concluded to show gradual but continuous improvement.

5. Taxes on retail sales and income provide two favorable alternatives for future sources of state revenue in South Dakota. Both taxes provide elastic sources of revenue, particularly a graduated income tax, in times of an inflationary national economy. The two taxes harmonize to

provide equity for taxpayers. The regressive nature of the sales tax can be balanced by a much less regressive graduated income tax.

6. Local school districts, dependent primarily upon the local property tax, are carrying a disproportionate share of the total cost of providing educational services for children in the state of South Dakota.

7. Large disparities exist in the local ability of school districts to finance public education in South Dakota.

8. The local property tax, as currently administered, exaggerates inequities otherwise present in local fiscal ability among South Dakota school districts. Local assessed values as a percentage of full and true value for both classes of property - agricultural and non-agricultural, but agricultural to the greatest degree - fall well below the statutory level, that is, taxes being levied on 60 percent of full and true value. Wide variations in assessment percentages were observed among the counties of the state.

9. The local property tax base has, however, shown favorable growth for the state as a whole, particularly locally assessed real property.

10. The South Dakota Legislature has failed to appropriate adequate amounts of money for the past several years to fully fund the minimum foundation program.

11. The current minimum foundation program, although increased for 1973-74 to $8,500 per classroom unit, is unrealistic for contemporary state financing of education. At average current operating expenditures for school districts in South Dakota of nearly $800 per student in ADM, the annual cost for a classroom unit defined as 25 students in ADM would be totally valued at $20,000. The low level of classroom unit financing does not permit the program to have a significant impact on equalizing for differentials in local fiscal ability.

12. Categorical grants such as the state special education financing program are allocated on a basis unrelated to local fiscal ability and may tend, in fact, to disequalize state aid for South Dakota school districts.

13. Local revenue per pupil is highly correlated with local fiscal ability. Several low wealth school districts were levying the maximum statutory local millage which tends to place a ceiling on expansion of educational programs.

14. Fiscal effort for providing public education at the state level in South Dakota is the lowest among a group consisting of surrounding states. The average state effort for the United States is nearly three times the state fiscal effort of South Dakota.

15. The local fiscal effort exerted generally by school districts in the state of South Dakota is among the highest for the nation. However, wide disparities exist in the degree of fiscal exertion among school districts related to size and fiscal ability. The larger districts, in general, have lower local fiscal ability but exert greater fiscal effort.

16. If present trends in population distribution continue for the state of South Dakota, disparities in both local fiscal ability and local fiscal effort will continue to widen.

17. The state of South Dakota has adequate fiscal resources available for state taxation to appropriately finance public elementary and secondary education in the foreseeable future. Economic trends for the state have a history of modest but stable growth. All indicators lead to the conclusion that potential for financing dynamic educational programs for boys and girls of the state is favorable if the electorate of the state is willing to express, through elected state officials, the demand for expanded effort.

FOOTNOTES

[1]U.S. Bureau of the Census, City and County Data Book, 1967, cited by NEA, South Dakota, A Statewide Study of Public School Finance and Conditions in the Schools, Washington, D.C.: The Association, October, 1968, p. 28.

[2]South Dakota Department of Public Instruction, South Dakota in Maps, prepared by Calvin Kent, Council on Economic Education, Pierre, S.D.: The Department, Spring, 1973, pp. 13-54.

[3]National Educational Finance Project, Alternative Programs for Financing Education, Vol. 5, Gainesville, Florida, 1971, p. 3.

[4]Interview, Officials of South Dakota Department of Revenue, April 17, 1973.

[5]Department of Revenue, South Dakota Fifteenth Annual Report, Sales Ratio, Pierre, S.D.: The Department, 1972, pp. 4-10.

[6]R. L. Johns, "The Coming Revolution in School Finance," Phi Delta Kappan, Vol. LIV, No. 1, (September, 1972), pp. 19-22,

[7]K. Forbis Jordan, "School Support in the Future," Compact, Vol. 6, No. 2 (April, 1972), p. 10.

[8]U.S. Office of Education, Public School Finance Programs, 1971-1972; edited by Thomas L. Johns, Washington, D.C.: U.S. Government Printing Office, 1972, p. 5.

[9]Charles S. Benson, The Economics of Public Education, 2nd edition, Boston: Houghton Mifflin Company, 1968, pp. 149-151.

[10]Ibid., p. 147.

[11]Ibid., pp. 147-148.

[12]U.S.O.E., Public School Finance, p. 2.

[13]Benson, The Economics, p. 148.

[14]U.S.O.E., Public School Finance, p. 2.

[15]Ibid.

[16]Benson, The Economics, p. 151.

[17]R. L. Johns and Edgar L. Morphet, The Economics and Financing of Education: A Systems Approach, Englewood Cliffs: Prentice-Hall, Inc., 1969, p. 177.

[18]Ibid., p. 178.

[19]Ibid.

[20]R. L. Johns, Kern Alexander and Forbis Jordan (eds.), Financing Education: Fiscal and Legal Alternatives, Columbus, Ohio: Charles E. Merrill Publishing Co., 1972, p. 91.

[21]Ibid., p. 93.

[22]NEFP, Alternative Programs, p. 63.

[23]Ibid., p. 59.

[24]Ibid., p. 62.

[25]William P. Briley, "Variation Between School District Revenue and Financial Ability," Status and Impact of Educational Finance Programs, Vol. 4, Gainesville: National Educational Finance Project, 1971, pp. 49-117.

[26]NEFP, Alternative Programs, p. 72.

[27]Ibid., pp. 74-75.

[28]Ibid., p. 78.

[29]Ibid., p. 81.

[30]Ibid., pp. 83-90.

[31]Ibid., p. 90.

A STUDY AND ANALYSIS OF THE SPARSITY FACTOR IN THE APPORTIONMENT OF SOUTH DAKOTA STATE SCHOOL SUPPORT FUNDS*

The purpose of this study was to analyze the use of a sparsity factor in the apportionment of state school support funds to South Dakota school districts. The study raised the following questions for analysis:

1. What are the policies for the apportionment of state aid in South Dakota, and how do these policies define sparsity as a factor in the state aid apportionment formula?

2. What were the relationships, if any, between the sparsity factor and educational costs during the most recent year?

3. What are the implications of this study's findings for reform in state aid apportionment in South Dakota?

The Foundation Program in South Dakota

The state policies underlying the South Dakota foundation program are found in SDC 13-13-11 as amended:

> "It is the purpose.....to establish a procedure for the distribution of state funds to local school districts."

The policies stated under this law are:

1. Education is a state and local function.

2. No one source of taxation should bear an excessive burden of the costs of education.

3. In order to provide reasonable equality in school tax rates among the various school districts in the state and to provide reasonable equality of educational opportunity for all the children in the state, the state shall assist in giving a basic educational opportunity to each student by contributing foundation program funds toward the support of his educational program.

---

*A Study performed by James Rose, Department of Educational Administration, University of Colorado, Boulder.

4. Foundation program state aid should be distributed to school districts in accordance with the formula as provided in 13-13-10 to 13-13-41, inclusive.

5. A minimum of twenty-five percent of the total general fund expenditures of the school districts of the state for the preceding school fiscal year should be distributed annually to school districts as a foundation program.

6. No school district should be eligible to receive foundation program state aid which does not provide an educational program which meets the requirements and standards as provided in 13-13-10 to 13-13-41, inclusive.

The "sparsity" factor is computed by applying computed lines of best fit to both elementary and secondary pupil enrollments for a district. Applying this equation produces "CRU's," or Classroom Units. In the case of both elementary and secondary CRU's, they cannot exceed the actual number of these teachers employed in the district. In effect, then, the so-called sparsity factor is an economy of scale factor and a staffing guideline. Economies of scale, as applied to public school education, assume that large pupil enrollment districts can provide educational goods and services at lesser unit costs than can smaller pupil enrollment districts.

The only true "sparsity" factor is the provision that a one teacher school may be counted as one CRU.

Two additional observations to be made are:

1. The lines of best fit are computed from past staffing practices, and

2. There is no distinction made for any factors other than pupil enrollment, elementary and secondary, and the one teacher school.

In order to understand the size factor as applied in the apportionment formula, a number of concepts are developed and the total apportionment program for 1973-74 are detailed.

The Formula

Several concepts are necessary in order to understand the actual computation of state aid to be allocated to the local school districts. These concepts and definitions are as follows:

1. Agricultural property (Ag property) is that property used for agricultural purposes (land, machinery, livestock, barns, etc.).

   A. Ag Real Estate and Structures are theoretically assessed at 60 percent of true value; but in practice, county assessment practices vary. The assessed value of such property is determined by the County Board of Commissioners through a County Assessor.

   B. Agricultural Personal Property, such as machinery and livestock, is assessed more uniformly throughout the state at the 60 percent rate. This necessitates treating the two categories of agricultural property differently.

2. Non-Agricultural property is all other property except utilities.

   A. Non-Ag Real Estate and Structures are theoretically assessed at 60 percent of true value; but in practice, county assessment practices vary. The assessed value of such property is determined by the County Board of Commissioners through a County Assessor.

   B. Non-Ag Personal Property, such as household goods, is assessed more uniformly throughout the state at the 60 percent rate. This necessitates treating the two categories of Non-Ag property differently.

   NOTE: The major reason for the two categories of Ag and Non-Ag property is the method of determining tax rates for the two. Both types of property are taxed at the same rate for the first eight (8) mills; then for every mill Ag property is taxed, Non-Ag property is taxed at the rate of two (2) mills. The maximum rates are twenty-four (24) mills on Ag property and forty (40) mills on Non-Ag property.

3. Rural Ratio Factor is the ratio between the state average weighted assessed valuation and the county average weighted assessed valuation for rural property.

4. Urban Ratio Factor is the same ratio as above, except that it is applied to the urban property.

5. Utilities Ratio Factor is the same ratio as above, except that it is applied to the utilities.

6. State Apportionment refers to the permanent school fund maintained by the state from the sale of school lands in the state and interest on that money. Each district receives an allocation based on the number of pupils.

7. CRU (Classroom Unit) as used in South Dakota is actually a weighted classroom unit. It refers to the basic need unit of the formula, and it is determined by a set number of pupils per unit.

The following units of allocation and computations are necessary to complete the formula:

1. Flat Grant support is set at $1,350.00 for the 1973-74 school year (covering 1972-73 figures).

2. CRU determination is made from the following tables:

TABLE 1 (13-13-22 S.D.C.). For Elementary School CRU

Total Average Daily Membership of Lower Grade School Pupils in the School District	Multiplicand	Addition Factor Constant
00.000 through 46.506	+.012042	+1.901461
46.507 through 181.534	+.044834	+0.376446
181.535 through 226.300	+.014995	+5.772454
226.301 and over	+.040503	0.0000000

TABLE 2 (13-13-23 S.D.C.). For Secondary School CRU

Total Average Daily Membership of Lower Grade School Pupils in the School District	Multiplicand	Addition Factor Constant
00.000 through 96.269	+.042086	+2.149407
96.270 through 299.077	+.047712	+1.607799
299.078 through 491.588	+.033150	+5.962965
491.589 and over	+.045280	0.0000000

Actual computations are made by multiplying the ADM for each unit times the appropriate multiplicand, then the addition factor constant is added to that number. Independent School Districts can add ten percent to each of the above figures for administration and supervision. Then, one-teacher schools may be added at the rate of one unit per school.

3. Compute Qualifying Levy as follows:

   A. [(Ag Real Estate + Ag Structures + TBDA*) X (State Ave. Assessment Ratio/County Ave. Assessment Ratio)] + (All other Ag property) X (13 mills).

   B. [(Non-Ag Real Estate + Non-Ag Structures) X (State Ave. Assessment Ratio/County Ave. Assessment Ratio)] + [(Utilities) X (Utilities Ave. Assessment State Ratio/Utilities Ave. Assessment Ratio for County)] + [(All other Non-Ag property)] X (18 mills).

   C. Total A and B for Qualifying Levy.

4. Compute CRU (total) as follows:

   A. ADM-elementary (except those in one-teacher schools) X Table 1 (S.D.C.) value for that district's elementary enrollment total. (This number cannot exceed the actual number of elementary teachers.)

   B. ADM-secondary X the appropriate Table 2 value for that district's secondary enrollment total. (This total CRU cannot exceed the actual number of secondary teachers.)

   C. Ten (10) percent of each of the above numbers can be added to the total to cover the added costs of administration and supervision. (If computing for an Independent District.)

   D. The number of one-teacher schools, since each one is counted as one CRU.

   E. The sum of A, B, C (if an Independent District), and D is the total CRU for the district.

---

*TBDA refers to Tax Base Depleting Allowance. This is state owned land within the local districts which is leased to local operators for range-land. Their lease payments are returned to the local districts on a prorata basis.

5. Compute Income for the district as used in the formula as follows:

   A. Tuition payments received from other districts or parents (except those distributions from the old County High School Tuition Fund surpluses.)

   B. State Apportionment.

   C. Qualifying Levy as computed above.

   D. Flat Grant total.

   E. Total A, B, C, and D for Income computation.

6. Compute Local Tax Effort as follows:

   A. (All Ag property) X (actual mill levy for Ag property).

   B. (All Non-Ag property) X (actual mill levy for Non-Ag property).

   C. Total A and B for Local Tax Effort.

7. Transportation aid is computed as follows:

   A. Adjusted bus transportation cost (maximum payment of 18¢ per mile).

   B. Mileage paid to parents.

   C. Board and room paid.

   D. Fifty (50) percent of the total of A, B, and C less any specifically designated receipts for transportation. This year the total from this should be multiplied by about ninety (90) percent.

The formula for state aid computation can now be most simply stated in the following manner:

STATE AID = (CRU X Flat Grant of $1,350) + [(CRU X a) X .77]**

+ [(.50 X b) X .90],

Where a is the lesser of [(CRU X $8,500) + Tuition payments] or (District General Fund Expenditures - Transportation Expenditures) - District Income (as noted),

and b is the total allowable transportation expense (net),

and .77 is a flexible percentage which depends upon appropriations,

and .50 is the percentage of payment built into the authorizing legislation,

and .90 is a flexible percentage which depends upon appropriations.

Review of Other Studies

There has been much study and reporting concerning the wide variations that exist in the area of per pupil expenditures in land among public school districts. This literature can be divided into three broad categories. First, those that deal in general terms with these expenditure variations and their probable causes. Second, those that detail research studies concerning these variations. And finally, those that propose alternatives or possible public policy to meet the variation problem.

Since the courts have become increasingly involved in the whole problem of how expenditure variations affect students, it is appropriate to first point out an article by Justice Wright[1] which focuses on the legal crux of the expenditure controversy. He pleas for courts to proceed cautiously in the area of per pupil expenditure litigation, warning that if the courts are too dynamic in their decisions--and thereby do not allow at least some reasonable tolerance

---

**The equalization portion of the formula can be participated in by only those districts which have qualified. Qualification for such participation is determined as follows:

The local Tax Effort (as previously noted) must be larger than the Qualifying Levy (as previously noted). When this is not the case, the district involved cannot receive that portion of the state aid; however, it does not eliminate it from the Flat Grant and Transportation portions.

between high and low expenditures per educational unit--they may forfeit all local control to state legislatures who will move to full state funding to avoid further litigation.[2]

Another article explains the situation in statistical terms. Rudiger and Pollack[3] deal in depth with the Cost of Education Index which appears yearly in School Management. They deal with the raw data of expenditures and costs, and they also develop some insights concerning the implications of variations in these financial aspects. They report in depth the fifteen function and object categories of budgeting over the last six years, comparing these functions with seven district size and regional groups throughout the United States. Their basic conclusion is that regional differences show greater range in cost variability than do district size factors.

In the area of specific research concerning cost variability it should be pointed out that most of the studies done are rather narrow in scope. Therefore, generalizing from the study findings must be done with caution. Perhaps the best research summary on variations is presented by the University of New York and the New York State Department Bureau of Educational Finance Research.[4] This study identifies four major factors in per pupil expenditure variations: (1) Local property tax base per pupil, (2) local tax rate per pupil, (3) size-location index, and (4) professional staff per pupil ratio. Using fifty New York counties as a sample, the study reported: (1) The tax base is the most important determinant of expenditure levels, (2) the tax rate is the best expression of the local boards' level of effort, (3) certain diseconomies of scale do exist in large districts, but small districts with less than 1,000 students also have increased expenses in some areas, (4) the staff-pupil ratio is a strong indicator of quality in education and should, therefore, be subject to differential weights based upon local discretion in developing educational programs.

Other studies of less depth have also been developed. Rajpal's[5] study showed that there is a positive correlation between expenditure levels and the Iowa Test scores, leading to the implication that increased variation in cost expenditures will lead to increased variation in the quality of the education in our schools. Mort,[6] among others, agreed with Rajpal in stating that there is a strong relationship between expenditures and the quality of an educational program. He believed that those districts who spend more, add more to the range of education of their students and focus better upon the needs of those children. Miner[7] concluded that per capita educational expenditures varied directly in proportion to the economic capacity of the state, the relative number of children to be educated, the proportion of pupils in secondary schools, and the salary levels of beginning teachers. He also stated that expenditures are inversely related to the density of the population of students in a SMSA. Burkhead[8] basically, agreed with Miner in his school finance text.

Another study, by Fisher,[9] stated that per capita income is the most consistent determinant of expenditure levels in education, a fact which may relate as well to cost variations. In an older study, Brazer[10] pointed out that population density and median income have little to do with per capita expenditures. In fact, according to Brazer, the percentage growth of the density and income had a negative effect on expenditures. A study, which presented a very strong argument, is developed by Rumbaugh, Donavan, Huysey, and Schooley.[11] This study reported that there is a higher relation between K-12 instructional expenditure and achievement in large districts than in small ones. The authors stated that in districts with 2,000 to 10,000 students there is no significant relationship between expenditure and achievement. Expenditures make a difference in large districts, thereby leading to the implication that for varying costs to be equalized, there may be an optimal district size which a state should strive for.

In the area of proposed alternatives, three recent studies seem to be most useful. First, Sklar[12, 13] has developed two reports to the President's Commission on School Finance. The first is a review of per pupil expenditure make-up, and it serves as a background review of the variation problem. He stated that the main reason for controversy lies with three problems in identifying expenditures. First, there are a variety of ways of presently calculating expenditures. Second, the present system of formulation is not always as functional as it might be. And third, there is extreme difficulty in comparing district costs throughout a state. He suggested that the U.S. Office of Education should develop more definitive guidelines for budgeting, and he also recommended a complete revision of the present function and object budgeting system. The second presentation is a prototype of school finance planning which he feels will reduce the problems of variations. His prototype is basically a forecasting system of all of the costs of education. He contends that only with accurate forecasting can we know what expenditures really do vary for a specific reason, and not just because of weak accounting procedures.

Bruno[14] also developed a forecasting model: working for the Rand Corporation, he developed a linear programming model which he felt developed a maximum utilization of resources, describes the distribution of funds in order of their effectiveness upon the educational system, and at the same time satisfied budgetary and political restraints which might have an effect upon expenditures. His model is demonstrated in such a way that he feels that the entire educational expenditure program of any state can be simulated in advance, thereby allowing variables in cost to be singled out and worked upon in a logical manner.

Finally, coming full circle from the first group of articles mentioned above, a review article of the entire problem is presented by Daicoff. This article hones in upon the major problems

mentioned throughout this review of variation studies. He dealt with the implications of the entire variability controversy.

In regional studies, Rose (1970) reported a number of internal school district measures and their correlation with current expenditure per pupil in Colorado. The four variables that account for approximately 80 percent of the variation among the 181 school districts' expenditure per pupils were: (1) Total pupil-instruction one-staff ratio, teacher training, state aid per pupil, equalized assessed valuation per pupil. Rose (1968) reported similar findings for the state of Kansas.

Because of their possible relationship to the South Dakota situation, the 1970 expenditure correlates are reported in Table 3.

TABLE 3. Expenditure Per Pupil Cost Correlates in 181 Colorado School Districts, 1970

Variable Name	Pearson's Product Moment Coefficient of Correlation
Superintendent Salary	-.45
7-12th Pupil Retention	.39
Pupil/Classroom Teacher Ratio	-.82
Pupil/Other Instructor Staff Ratio	-.49
Pupil/Total Instructor Staff Ratio	-.83
Pupil/Administration Ratio	-.67
Average Number Senior High Courses	-.47
Teacher Average Retention Ratio	-.26
3rd Grade Reading	-.11
6th Grade Reading	-.21
11th Grade Math	-.17
Average Elementary Teacher Salary	-.20
Average Secondary Teacher Salary	-.24
State Aid Per Pupil	.68
General Fund Millage	-.23
Equalized Assessed Value/Pupil	.66
Percent Enrollment Elementary	-.04
Percent Enrollment Secondary	.04
Elementary Enrollment	-.17
Secondary Enrollment	-.16
Teacher Experience (years)	.03
Teacher Training Index	-.22
Total Enrollment	-.17
Adjusted Personal Income/Pupil	.42

Recent South Dakota school finance studies were reported by the University of Minnesota (1969) and the NEA-South Dakota Education Association (1967). The Minnesota study called for school district reorganization first, with state aid then increased to an average rate of 50 percent. The Minnesota study further called for an expansion of the factors used in computing the CRU's. They recommended that the formulae enrollment data be derived only from accredited schools and that a separate factor be added for kindergarten enrollments.

The NEA-SDEA study was critical of the then present method of computing CRU's or Classroom Units. The major criticism was that districts' staffing practices had changed so as to invalidate the formula factors. The study called for computation of new factors, continuation of the enrollment derived CRU, and an increase from ten to twelve percent for the administrative factor.

We know that school district measurements of real educational need and fiscal ability for purposes of apportioning state aid are required when:

1. There is less than full state funding.

2. There are more than one school district in the state.

3. The state seeks educational opportunity and tax responsibility equity.

The measurement of educational need so as to fit the many factors that impinge on the delivery of educational goods and services to the individual South Dakota districts becomes imperative if equity criteria are to be met. The review of the literature suggests that many factors should be considered in establishing adequate and valid cost estimates for the purpose of apportioning state aid to districts.

South Dakota's State School Superintendent in 1971 issued a paper, "Criteria for a Sound State Support Program for Public Education." State School Superintendent Barnhart wrote:

> "A sound state support program measures educational need in a satisfactory manner." ....."While pupils in school attendance, or the classroom unit is the most usual measure of educational need, it fails to recognize that it costs more to educate some children than others, and that it costs more to provide education in some areas of a state than in others. To adequately measure educational need, pupils in programs costing more money must be weighted in relation to the cost of their program in order to provide equity. Recognition must also

be given to the fact that in certain communities, typically in larger urban centers, per pupil costs are necessarily higher since living costs are higher, teachers' salaries are higher, etc." (p. 6)

Barnhart's conclusions are supported by the National Educational Finance Project. In the publication, "Future Directions for School Financing," (p. 28), NEFP suggested the following program weights based on their research to illustrate the weighting concept.

Educational Program	Weight Assigned
Basic elementary grades, 1-6	1.0
Grades 7-9	1.20
Grades 10-12	1.40
Kindergarten	1.30
Mentally handicapped	1.90
Physically handicapped	3.25
Special learning disorder	2.40
Compensatory education	2.00
Vocational-technical	1.80

The South Dakota School Support foundation program emphasizes school district enrollment and normative staffing practices as relevant factors to estimate local district educational need in order to apportion state school support. The formula also recognizes sparsity of pupil population in that one-teacher schools are counted as "1" cla-sroom unit regardless of the pupil enrollment. It should be noted also that the foundation program provides for bus transportation, payments of mileage expenses to parents, and board and room costs for eligible pupils. Sparsity, as an educational cost factor, is recognized in a variety of ways outside of the "basic school support" apportionment formula. It is noted that this study focuses on the so-called "basic support" portion of the state foundation program.

Educational Costs and Socioeconomic-Demographic Measures

Introduction

A number of relationships pertinent to the measurement of educational need for apportionment of state aid are not available for the population of South Dakota school districts. For example, personal income, rural-populations, educational attainment, and poverty levels of the population simply are not measured for school districts. Since these are important measures and the relationships or lack of relationships between educational cost and these measures hold implications for state aid formulae, these measures were studied for a 65 South Dakota county population. This county study is followed by a study of size, staffing, and educational cost relationships among a population of independent school districts.

County Study

The relationships between population per square mile (sparsity) and educational costs among South Dakota school districts was of interest in this study. Since these sparsity data are not readily available for school districts, a county study was conducted. Sixty-five operating counties were included in the population (two "non-operating" counties were excluded).

Educational costs per pupil were computed for each county. These were computed by summing total within county school district educational costs and dividing by total within district pupils in average daily membership. The socioeconomic-demographic measures for the study were selected from most recent federal census data compiled for South Dakota counties. These measures are summarized as follows:

1. Median Family Income.
2. Percent Income Under Federal Poverty Level.
3. Percent Income At and Over $15,000.
4. Total County Population.
5. Percent of County Population Rural, Non-farm.
6. Percent of County Population Rural, Farm.
7. Number of School Years of County Population 25 Years or Older.
8. Percent of County Population 18 Years of Age or Younger.
9. County Population Per Square Mile.
10. Number of Pupils in County (ADM).
11. Educational Cost Per Pupil in ADM (County Average).

The means, standard deviations, and simple correlations between cost per pupil and the other ten measures are shown in Table 4.

School age population, poverty, rural non-farm population, total county population, pupil population, sparsity, and family income are all important variables to explain variation in educational spending. However, the combination of variables that explain more variation than any other combination of the ten variables explains only 33.6 percent of the education cost per pupil variation among the sixty-five counties. These four "most efficient" variables are shown in Table 5.

TABLE 3. Means, Standard Deviations, and Correlations Between Education Cost Per Pupil in ADM and Ten Selected County Measures. South Dakota, 65 Operating Counties.

Measure	Unweighted Mean	Standard Deviation	Correlation
1. Median Family Income	$6,731	$1,172	-.31
2. Percent Income Under Federal Poverty Level	18.3%	7.7%	.43
3. Percent Income At or Above $15,000	10.3%	3.8%	-.14
4. Total County Population	10,195	13,865	-.35
5. Percent of County Population Rural, Non-farm	43.2%	19.8%	.42
6. Percent of County Population Rural, Farm	36.6%	15.1%	.28
7. Number of School Years Completed, 25 Years and Older	11.2 Yr.	1.1 Yr.	-.07
8. Percent of County Population 18 Years or Younger	37.1%	4.5%	.44
9. County Populations/Square Mile	11.6	16.1	.33
10. County Pupil ADM	2,525	3,615	-.35
11. County Average Cost/Pupil in ADM	$ 794	$ 103	

While South Dakota counties are not school districts, this county study is helpful. Since inter-school district variations are probably greater than inter-county variations, the findings of this study are probably conservative mirrors of a school district study population.

The cost of delivering educational goods and services are variable, depending, of course, on how well local educational needs are identified and funded.

TABLE 5. Four Most Efficient South Dakota County Measures in Explaining Variation in Average County Cost Per Pupil in ADM

Measure	First-Order Correlation	Multiple-R	Percent of Variation in Cost/Pupil Explained
1. Percent County Population 18 Years or Younger	.44	.44	19.4%
2. County Total Pupils in ADM	-.35	.53	28.1%
3. Percent County Population Rural-Non-farm	.42	.55	30.3%
4. School Years Completed Population 25 Years or Older	-.07	.58	33.6%

Of interest in the county study is that only 33.6 percent of the cost variation could be explained. Sparsity, as measured by population per square mile, was not a relatively important variable since it was highly correlated with total county population and percent of the population that is rural non-farm.

School District Study

A study population of 191 independent school districts was selected for study. The 191 were selected simply on the basis of full data availability. None of the 38 common school districts were included in the study since the state has been pursuing a policy of reorganization and these districts will be phased out as time passes.

The first step in this study was to compare school district pupil enrollments and cost per pupil in average daily membership. The purposes of this study was to examine the variation in costs experienced by school districts of similar size (pupil enrollment) and to determine "economic of scale" or lower per unit costs as pupil enrollments increase. Also of interest was "dis-economics of scale" or per unit cost increases as district pupil enrollments increase.

The 191 school districts were distributed into six size classifications. The pupil enrollments per classification were incremented at 300 pupils. The last size group included districts with 1,500 or more pupils in ADM. One hundred and nineteen of the 191 South Dakota districts, or 62 percent of the districts enroll 600 pupils or less. Costs per pupil in ADM ranged from $2,409 to $536. Figure 1 shows a gradual decrease in the unweighted average cost per pupil through the group of districts enrolling 1,200 pupils or less. As pupil enrollments increase from 1,200 and above, unweighted average cost per pupil tends to increase.

There are economies of scale through 1,200 pupil districts and diseconomies of scale beyond 1,200 pupil districts. Of interest in Figure 1 are the tremendous disparities of cost per pupil within similar size groupings. In the smallest grouping of districts, up to 300 pupils, the ratio of high to low expenditure is 2.6 to 1.0.

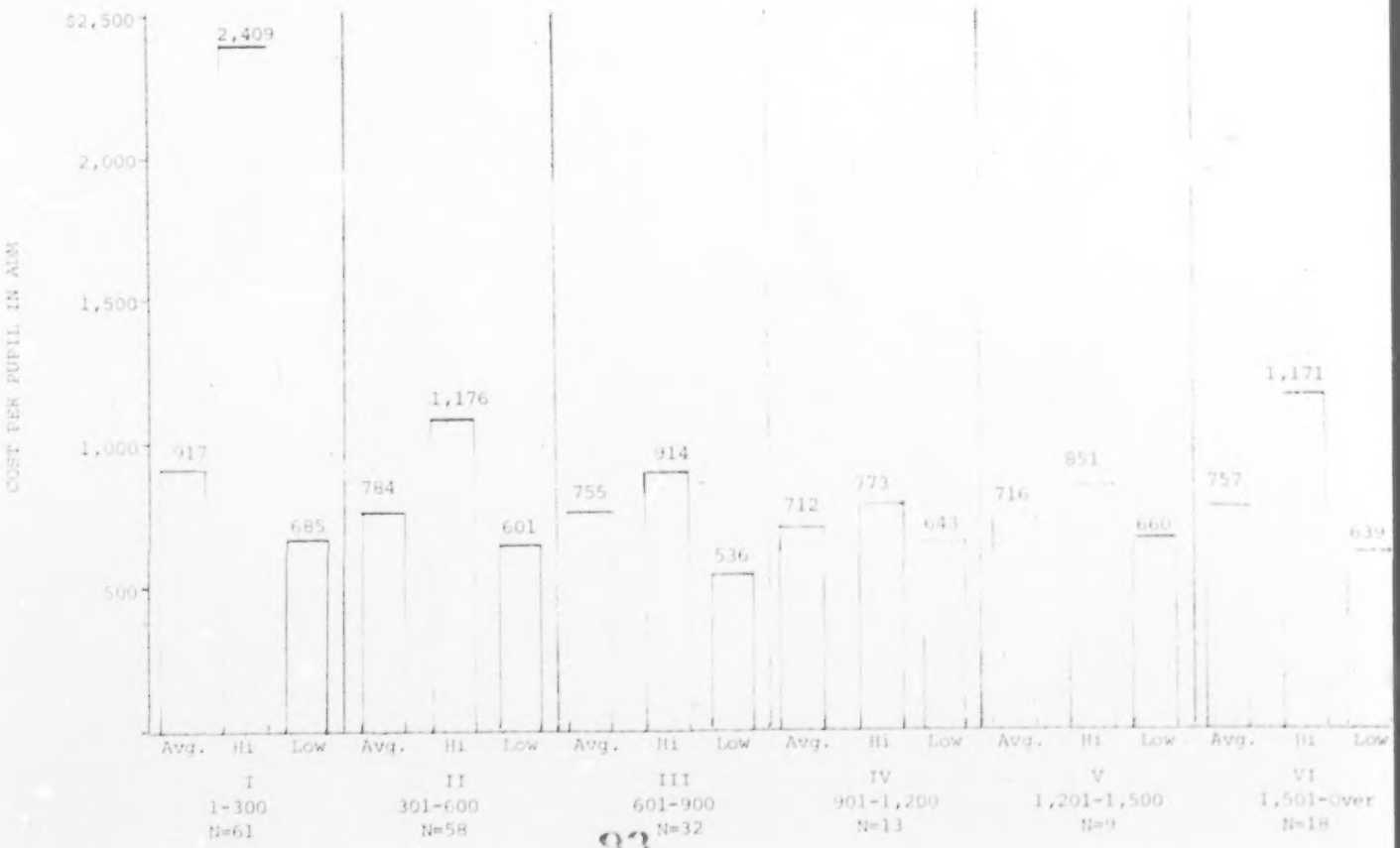
While size may be a factor in delivering educational goods and services, there are many other factors impinging on cost.

Further study was focused on the relationships among cost per pupil and a number of other school district measures. Of particular interest were the measures that in addition to district pupil enrollment would explain or "account" for variation found among the 191 school districts' cost per pupil in ADM.

The following measures were recorded for each of the 191 school districts, transformed to punched cards, and processed. (The "mean" represents the unweighted average.)

	Measure	Unweighted Mean	Standard Deviation
1.	District Current Expenditure/ADM	$ 811	184
2.	District Average Daily Membership	866	1,813
3.	Classroom Units Computed by State	42.9	82.7
4.	Current Expenditure per CRU	$14,663	2,098
5.	State Aid per ADM	$ 111	60
6.	Elementary Enrollment	591	1,273
7.	Secondary Enrollment	277	548
8.	Elementary Teachers	30.7	62.8
9.	Secondary Teachers	18.3	25.2
10.	Elementary pupil-teacher Ratio	18.4	4.6
11.	Secondary pupil-teacher Ratio	13.1	9.2

FIGURE 1. Size-Cost Relationships 188 South Dakota School Districts



Correlations were computed between cost per pupil and selected measures. These correlations, reported in Table 6, indicate a strong inverse relationship between cost per pupil and elementary pupil-teacher ratio, r = -.68. That is, as elementary pupil-teacher ratios increase, cost decreases, or as ratios decrease, costs tend to increase. Taken as a single measure, elementary pupil-teacher ratio variations among the 191 districts explains about 46 percent of the inter-district variation in current expenditure per pupil. Secondary pupil-teacher ratios are relatively weak, r = -.16. Also, district total pupils in ADM is relatively weak, -.18. Both of the latter two correlations show an inverse relationship with cost per pupil.

TABLE 6. Correlations Between Cost Per Pupil and Ten Selected District Measurements for 191 South Dakota School Districts

	Measure	Correlation
1.	Current Expenditure per ADM	----
2.	District ADM	-.18
3.	Classroom Units	-.18
4.	Cost Per CRU	.50
5.	State Aid Per ADM	-.02
6.	Elementary Pupil Enrollment	-.18
7.	Secondary Pupil Enrollment	-.18
8.	Number of Elementary Teachers	-.17
9.	Number of Secondary Teachers	-.17
10.	Elementary pupil-teacher Ratio	-.68
11.	Secondary pupil-teacher Ratio	-.16

The inter-correlations among the school district measures of size, cost, classroom units, and elementary and secondary pupil-teacher ratios are of interest. As shown in Table 7, the classroom unit, as computed by the state formula, is not related to cost per classroom unit, (r = .08), nor is state aid related to district size as measured by pupils in ADM, (r = .01).

The school district data were further analyzed by applying a multiple regression program to ascertain the relative power of the several measures to account for, or explain, variation in the cost per pupil measure. As shown in Table 8, three measures, elementary and secondary pupil-teacher ratios, and state aid per pupil account for 64 percent of the inter-district variation in cost per pupil.

TABLE 7. Inter-correlation of Seven Selected District Measurements for 191 South Dakota Independent School Districts

	Variable Name	Variable Number 1	2	3	4	5	6
1.	Average Daily Membership	1.00					
2.	Cost per ADM	-.18	1.00				
3.	Classroom Units	1.0	-.18	1.00			
4.	Cost per CRU	.09	.50	.08	1.00		
5.	State Aid per ADM	.01	-.02	.01	-.25	1.00	
6.	Elementary Pupil-Teacher Ratio	.12	-.68	.11	-.26	.11	1.00
7.	Secondary Pupil-Teacher Ratio	.24	-.16	.23	.33	-.01	.12

TABLE 8. Percentage of Inter-district Variation in Current Cost Per Pupil in ADM Explained by Three Selected School District Measures

	Variable Name	r	R	R^2
1.	Elementary Pupil-Teacher Ratio	-.67	.67	.45
2.	Secondary Pupil-Teacher Ratio	-.16	.78	.61
3.	State Aid/Pupil in ADM	.01	.80	.64

Summary of Findings

The South Dakota state aid formula places heavy reliance on elementary and secondary pupil enrollments and normative staffing ratios derived from past practices.

The specific factor of sparsity is provided for in the staffing formula where a one-teacher school, regardless of pupil enrollment is counted as one classroom unit. Also, the over-all state program provides transportation and other allowances for residents and pupils of sparsely populated sectors.

The county study findings showed that population density, (population per square mile), was correlated with total population. Therefore, assuming similar relationships among school districts, sparsity as a cost factor is met to the extent that district size (pupils) is considered as a cost factor in apportioning state aid. The county study also indicated size-cost correlations as well as cost correlations with poverty level, rural population, and age of the population.

The district study found economies and diseconomies of scale on average cost per pupil for seven selected size groupings of districts. Cost per unit tended to decrease as district size (pupils in ADM) increased. But, after the 900, 1,200 pupil district size group, cost per pupil increased slightly. The extreme ranges around the mean per pupil cost for each group is of great importance for costing educational programs for state aid apportionment purposes. Size of district alone will not satisfactorily explain enough of the variation found in cost per pupil to be used as a single factor in a state aid formula. However, district size and cost per pupil are related in the population of 191 school districts and state aid per pupil is not related to district size. This is evidence that the present state aid formula, which relies on an "a prior" assumption about staffing ratios, is not apportioning state aid to meet costs arising out of either small or large school district situations.

APPENDIX A. 191 South Dakota School Districts and Eleven School Finance Measures

District	Dist. ADM	Cost Per ADM	CRU	Cost Per CRU	State Aid/ ADM	Elem. ADM	Secon. ADM	Elem. Tchr.	Secon. Tchr.	Elem. ADM-Tchr. Ratio	Secon. ADM-Tchr. Ratio
Plankinton	359.7	$ 845.44	18.7	$16,262	$ 51.85	258	110	12	13	21.5	8.5
Stickney	412.8	601.01	20.8	11,927	113.38	283	126	11	10	25.7	12.6
White Lake	356.5	778.86	18.6	14,928	70.92	229	120	11	12	20.8	10.0
Huron	3,963.7	710.26	183.8	15,317	122.73	2,697	1,310	138	72	19.5	18.2
Wessington	226.0	968.05	13.6	16,086	60.37	128	101	7	9	18.3	11.2
Wolsey	370.1	882.52	19.3	16,923	52.22	238	137	15	11	15.9	12.5
Hitchcock	258.9	928.57	15.3	15,712	58.96	159	100	10	8	15.9	12.5
Iroquois	501.2	793.89	25.3	15,727	64.18	364	163	18	15	20.2	10.9
Bennett Co.	275.0	1,031.00	16.2	17,501	58.91	0	291	0	20	0.0	14.5
Avon	459.1	676.16	27.3	11,370	151.13	319	140	18	14	17.7	10.0
Scotland	744.9	863.52	40.8	25,765	89.86	505	243	32	16	15.8	15.2
Bon Homme	1,160.6	673.69	62.1	12,590	146.90	802	354	49	25	16.4	14.2
Brookings	2,887.0	699.17	133.1	15,165	104.34	2,021	885	98	48	20.6	18.1
Elkton	416.7	699.68	20.8	14,017	113.43	281	135	16	10	17.6	13.5
Sioux Valley	746.6	689.40	37.1	13,873	151.00	474	266	20	17	23.7	15.6
Deubrook	422.1	799.41	21.7	15,540	141.78	273	146	14	11	19.5	13.3
Warner	287.6	793.93	16.0	14,270	55.61	219	85	13	7	16.8	12.1
Aberdeen	6,319.2	684.41	290.9	14,867	83.81	4,521	1,781	217	80	20.8	22.3
Groton	954.2	702.76	45.8	14,641	47.96	639	304	26	21	22.8	14.5
North Brown	809.5	745.00	40.0	15,077	49.44	540	279	28	19	19.3	14.7
Chamberlain	1,388.9	721.68	69.4	14,443	102.02	937	410	51	24	18.4	17.1
Kimball	511.8	742.55	27.8	13,670	54.30	347	168	25	13	13.9	12.9
Newell	714.6	776.05	38.2	14,517	53.46	440	266	30	18	14.7	14.8
Belle Fourche	1,461.3	723.55	68.8	15,368	104.30	975	500	44	31	22.2	16.1
Pollock	239.0	861.49	14.3	14,398	59.83	151	86	7	9	21.6	9.6

District	Dist. ADM	Cost Per ADM	CRU	Cost Per CRU	State Aid/ ADM	Elem. ADM	Secon. ADM	Elem. Tchr.	Secon. Tchr.	Elem. ADM-Tchr. Ratio	Secon. ADM-Tchr. Ratio
Bristol	334.2	$ 781.48	17.7	$14,755	$ 52.94	221	113	10	11	22.1	10.3
Gary	194.4	754.20	13.1	11,192	289.38	131	59	8	10	16.4	5.9
Astoria	148.5	871.18	8.6	15,043	170.78	90	58	6	5	15.0	11.6
Clear Lake	832.1	744.45	39.3	15,762	95.20	569	245	28	14	20.3	17.5
Isabel	210.6	825.48	11.8	14,732	71.51	127	75	6	7	21.2	10.7
Timber Lake	360.2	927.68	19.6	17,048	54.49	201	163	13	11	15.5	14.8
Eagle Butte	811.0	535.20	33.0	13,152	40.69	622	184	24	8	25.9	23.0
Delmont	186.8	801.99	13.0	11,524	159.94	130	61	8	8	16.3	7.6
Armour	446.5	728.59	23.5	13,843	132.60	329	119	17	19	19.4	6.3
Corsica	403.4	756.18	22.5	13,557	109.59	284	116	16	11	17.7	10.5
Ipswich	538.8	821.53	27.4	16,154	50.86	384	207	15	16	25.6	12.9
Bowdle	313.0	728.83	17.0	13,419	54.16	193	102	16	5	12.1	20.4
Hosmer	313.4	675.86	16.9	12,533	138.73	203	108	11	8	18.5	13.5
Roscoe	287.8	965.89	16.7	16,645	58.09	212	110	14	10	15.1	11.0
Hot Springs	1,205.1	716.95	57.1	15,131	143.86	842	375	37	24	22.8	15.6
Edgemont	478.7	756.03	24.3	14,893	107.67	318	153	16	12	19.9	12.7
Oelrichs	131.0	1,189.20	12.1	12,874	92.33	82	44	6	9	13.7	4.9
Cresbard	320.5	987.76	18.1	18,036	54.68	209	126	13	9	16.1	14.0
Faulkton	750.4	681.82	39.4	12,985	79.70	440	270	25	21	17.6	12.9
Big Stone 10 Cont.	211.0	641.00	12.2	11,086	295.83	157	0	9	0	17.4	0.0
Milbank	1,446.4	698.91	67.1	15,065	99.68	929	480	49	29	19.0	16.6
Grant Devel	498.3	695.88	25.1	13,815	107.34	335	174	18	12	18.6	14.5
Burke	503.0	724.58	25.0	14,578	59.72	335	188	18	14	18.6	13.4
Gregory	774.5	779.17	41.3	14,611	53.36	520	263	31	21	16.8	12.5
Fairfax	153.0	851.25	10.5	12,404	229.48	103	50	4	7	25.7	7.1

APPENDIX A. (Continued)

District	Elmt. ADM	Cost Per ADM	CRU	Cost Per CRU	State Aid/ ADM	Elem. ADM	Secon. ADM	Elem. Tchr.	Secon. Tchr.	Elem. ADM-Tchr. Ratio	Secon. ADM-Tchr. Ratio
Merrell	401.0	$ 690.23	18.9	$14,644	71.41	277	132	9	12	30.8	11.0
Bedder	245.9	872.12	14.6	14,688	103.21	161	88	9	9	17.9	9.8
Andes Central	613.3	697.19	30.6	13,973	202.12	416	188	22	13	18.9	14.5
East Charles Dix	965.0	773.10	43.5	17,150	122.62	697	243	39	15	17.9	16.2
Platte	660.9	764.31	37.2	13,576	56.29	435	214	24	19	18.1	11.3
Willow Lake	407.3	768.97	21.0	14,863	51.03	263	142	10	10	26.3	14.2
Clark	795.1	611.75	39.2	16,464	49.30	541	254	26	18	20.8	14.1
Bradley	118.6	914.80	8.3	13,072	190.41	76	47	4	8	19.0	5.1
Wakonda	489.1	912.93	16.3	16,130	56.66	184	96	11	12	17.1	8.2
Vermillion	1,662.9	810.38	77.2	17,485	50.19	1,152	538	61	40	18.9	13.4
Watertown	3,906.3	664.60	180.9	14,329	115.52	2,586	1,325	123	76	21.0	17.4
Henry	171.3	801.00	11.2	12,251	241.00	103	73	5	12	20.6	6.1
South Shore	182.1	830.55	11.3	12,603	242.87	120	62	5	10	24.0	6.2
Waverly	188.8	795.06	11.7	12,829	210.97	112	77	4	9	28.0	8.6
Florence	192.8	729.67	11.1	12,673	154.18	121	71	6	12	20.2	5.9
McIntosh	523.1	958.89	26.6	18,856	79.01	369	154	29	13	12.7	11.8
McLaughlin	643.4	855.19	32.7	16,826	197.08	482	163	27	12	17.9	13.6
Smee	194.0	1,039.18	12.3	16,390	316.24	155	38	9	5	17.2	7.6
Custer	964.3	744.27	47.9	14,983	93.68	711	255	35	19	20.3	13.4
Ethan	287.3	695.89	16.3	12,265	168.39	198	102	10	8	19.8	12.7
Mount Vernon	312.1	807.94	18.4	13,704	113.79	208	120	13	9	16.0	13.3
Mitchell	3,528.6	853.96	164.6	18,306	81.92	2,300	1,257	167	98	13.8	12.7
Roslyn	358.1	710.06	18.7	13,597	160.11	235	122	10	10	23.5	12.2
Webster	1,028.5	647.44	48.1	13,758	110.84	728	350	30	22	24.3	15.9
Naubay	512.2	753.96	26.1	14,796	220.13	290	193	12	15	24.2	12.9

District	Dist. ADM	Cost Per ADM	CRU	Cost Per CRU	State Aid/ ADM	Elem. ADM	Secon. ADM	Elem. Tchr.	Secon. Tchr.	Elem. ADM-Tchr. Ratio	Secon. ADM-Tchr. Ratio
Jonesteel	299.1	$ 808.15	16.3	$14,829	$165.18	185	87	8	11	23.1	7.9
Midland	147.7	1,016.52	12.6	11,915	85.09	104	54	9	8	11.6	6.8
Maakon	633.4	843.73	35.7	14,969	56.30	439	196	32	14	13.7	14.0
Castlewood	371.0	676.70	18.7	13,425	174.59	249	122	11	9	22.6	13.6
Estelline	440.2	752.68	22.6	14,660	108.14	280	156	16	11	17.5	14.2
Hamlin	764.5	809.44	37.9	16,327	74.25	509	265	25	33	20.4	8.0
Miller	1,222.0	850.62	61.5	16,901	50.32	856	378	55	24	15.6	15.7
Fairview	59.1	1,387.96	6.0	13,671	101.52	0	62	0	8	0.0	7.8
Hanson	532.1	835.16	26.9	16,520	50.53	379	176	22	15	17.2	11.7
Harding Co.	376.3	1,175.57	28.7	15,413	76.21	265	109	27	10	9.8	10.6
Pierre	3,016.7	650.26	141.3	13,883	117.70	2,001	977	96	60	20.8	16.3
Harrold	194.8	1,096.88	14.6	14,635	139.10	131	66	11	8	11.9	8.3
Henno	475.2	788.62	25.4	14,754	53.48	334	159	15	15	22.3	10.6
Tripp	445.2	667.84	20.8	14,294	90.51	291	144	13	12	22.4	12.0
Freeman	698.1	674.54	34.2	13,768	49.06	506	190	28	13	18.1	14.6
Parkston	1,177.1	754.09	57.4	15,464	100.44	810	372	36	22	22.5	16.9
Tyde	704.7	797.78	39.0	14,415	55.30	484	233	32	17	15.1	13.7
Cadoka	512.1	896.10	25.6	17,925	49.96	383	126	23	10	16.7	12.6
Alpena	191.4	874.53	12.3	13,608	169.74	129	73	9	7	14.3	10.4
Wessington Springs	782.1	899.49	40.8	17,242	52.18	525	272	36	18	14.6	15.1
Burdo	348.8	754.64	19.3	13,638	55.31	248	106	12	11	20.7	9.6
Draper	131.0	1,032.84	10.4	13,009	109.99	90	50	6	8	15.0	6.3
Arlington	664.4	695.59	32.4	14,264	84.12	433	230	17	18	25.5	12.8
Lake Preston	468.0	864.70	23.9	16,932	59.37	309	158	17	14	18.2	11.3
De Smet	642.4	698.16	32.2	13,928	111.10	412	235	20	17	20.6	13.8

APPENDIX A (Continued)

District	Dist. ADM	Cost Per ADM	CRU	Cost Per CRU	State Aid/ ADM	Elem. ADM	Secon. ADM	Elem. Tchr.	Secon. Tchr.	Elem. ADM-Tchr. Ratio	Secon. ADM-Tchr. Ratio
Oldham	185.9	$ 847.23	11.7	$13,461	$ 74.72	104	83	6	9	17.3	9.2
Rutland	246.4	763.28	14.7	12,794	115.11	166	79	9	9	18.4	8.8
Chester	478.4	749.58	24.2	14,818	141.74	337	144	17	15	19.8	9.6
Ramona	179.0	851.69	12.1	12,086	205.46	125	64	7	9	17.9	7.1
Lake Central	1,814.3	726.11	84.1	15,664	115.69	1,178	636	62	39	19.0	16.3
Spearfish	1,433.6	667.11	83.4	14,032	110.86	937	405	45	25	20.8	16.2
Lead-Deadwood	2,513.2	709.68	116.4	17,266	72.17	1,756	816	104	47	16.9	17.4
Canton	1,178.2	716.86	57.5	14,688	127.55	816	385	38	20	21.5	19.2
Hudson	185.6	861.58	12.2	13,107	220.75	115	73	6	8	19.2	9.1
Lennox	1,201.8	660.20	58.2	13,632	135.05	772	409	42	21	18.4	19.5
Harrisburg	425.2	701.94	20.8	14,349	147.43	289	140	13	10	22.2	14.0
Lyman	651.9	913.57	34.1	17,485	52.31	423	228	27	13	15.7	17.4
Montrose	351.0	659.05	18.4	12,553	140.29	230	121	10	12	23.0	10.1
Spencer	142.5	874.73	10.9	11,435	324.22	110	40	8	5	13.8	8.0
Salem	575.7	818.61	29.3	16,084	52.75	309	242	14	16	22.1	15.1
Canistota	288.2	685.49	16.4	12,046	93.47	203	97	10	8	20.3	12.1
Tri County	650.5	842.27	32.7	16,755	53.76	389	242	22	23	17.7	10.5
Eureka	633.8	754.78	32.0	14,949	50.43	422	250	18	16	23.4	15.6
Leola	646.4	712.06	31.5	14,611	56.07	427	192	20	15	21.3	12.8
Britton	935.4	675.52	45.7	13,826	86.49	689	318	33	19	20.9	16.7
Langford	463.8	765.49	23.7	14,980	51.16	327	160	19	12	17.2	13.3
Veblen	251.2	881.39	14.9	14,859	141.13	151	101	10	7	15.1	14.4
Meade	2,793.3	667.04	138.8	13,423	145.04	1,939	840	103	46	18.8	18.3
Wood	206.7	1,053.34	17.6	12,370	168.80	140	50	12	8	13.3	6.3
White River	503.9	937.78	28.6	16,522	175.71	391	114	27	13	14.5	8.8

APPENDIX A. (Continued)

District	Dist. ADM	Cost Per ADM	CRU	Cost Per CRU	State Aid/ ADM	Elem. ADM	Secon. ADM	Elem. Tchr.	Secon. Tchr.	Elem. ADM-Tchr Ratio	Secon. ADM-Tchr. Ratio
Howard	715.1	741.20	36.1	$14,682	$ 94.14	517	238	22	21	23.5	11.3
Carthage	196.4	901.84	12.4	14,284	156.89	121	76	10	8	12.1	9.5
Canova	234.2	737.12	13.8	12,509	153.56	161	92	7	6	23.0	15.3
Sioux Falls	18,509.2	684.41	853.5	14,842	106.48	13,102	5,540	646	276	20.3	20.1
West Central	941.5	691.11	44.3	14,688	129.05	615	334	27	22	22.8	15.2
Baltic	301.1	774.61	16.9	13,800	112.60	198	104	11	8	18.0	13.0
Garretson	545.0	619.13	27.4	12,314	121.90	331	205	17	13	19.5	15.8
Bell Rapids	797.3	695.24	39.2	14,140	49.21	547	236	29	16	18.9	14.7
Tri Valley	635.6	708.61	31.8	14,163	59.41	402	226	20	17	20.1	13.3
Brandon Valley	1,460.0	731.28	67.9	15,724	79.92	987	464	53	26	18.6	17.8
Egan	220.7	829.31	13.4	13,659	190.58	135	82	8	9	16.9	9.1
Flandreau	940.4	757.11	45.8	15,545	99.26	611	331	32	22	19.1	15.0
Colman	298.0	687.48	15.9	12,884	145.03	220	78	10	9	22.0	8.7
Rapid City	14,065.1	638.58	637.6	14,086	155.14	9,674	4,363	468	167	20.7	26.1
Hill City	478.0	712.88	24.2	14,080	175.56	339	145	17	10	19.9	14.5
New Underwood	277.8	750.08	16.7	12,477	64.45	172	104	9	10	19.1	10.4
Hall	539.1	862.70	32.6	14,266	60.47	313	199	19	17	16.5	11.7
Douglas	3,439.4	795.75	157.5	17,377	229.89	2,641	810	116	41	22.8	19.8
Lemmon	979.5	690.61	49.7	13,610	50.71	640	321	31	21	20.6	15.3
Bison	390.2	1,039.05	25.2	16,088	64,68	266	117	23	10	11.6	11.7
Northwest Contr	104.4	1,201.38	10.1	12,418	97.19	60	0	8	0	7.5	0.0
Gettysburg	726.6	659.79	37.0	12.956	66.06	424	294	23	17	18.4	17.3
Doven	145.0	1,757.36	9.4	27,108	64.68	0	145	0	12	0.0	12.1
Sisseton	1,630.5	866.48	75.7	18,663	204.05	1,201	435	55	32	21.8	13.6
Corona	150.0	823.82	11.1	11,132	259.10	105	50	5	8	21.0	6.3

APPENDIX A. (Continued)

District	Dist. ADM	Cost Per ADM	CRU	Cost Per CRU	State Aid/ ADM	Elem. ADM	Secon. ADM	Elem. Tchr.	Secon. Tchr.	Elem. ADM-Tchr. Ratio	Secon. ADM-Tchr. Ratio
Summit	279.6	$ 756.03	15.8	$13,378	$218.92	180	84	12	8	15.0	10.5
Wilmot	463.6	779.51	23.5	15,378	123.83	334	132	19	12	17.6	11 0
New Effington	241.6	861.98	14.7	14,166	122.09	160	74	8	11	20.0	6.7
Rosholt	393.7	757.66	20.2	14,766	51.37	252	140	13	12	19.4	11.7
Moonsocket	437.8	717.11	22.5	13,953	175.07	289	151	17	13	17.0	11.6
Letcher	215.7	703.30	13.2	11,492	232.00	138	84	6	9	23.0	9.3
Forestburg	121.6	1,114.76	10.0	13,555	122.50	72	49	5	8	14.4	6.1
Artesian	241.3	796.30	14.4	13,343	104.82	162	94	10	9	16.2	10.4
Doland	399.4	852.55	20.5	16,610	51.41	279	123	13	12	21.5	10.2
Redfield	1,143.2	789.24	54.4	16,165	73.93	777	386	35	24	22.2	16.1
Tulare	280.3	848.09	16.1	14,765	57.33	195	83	11	10	17.7	8.3
Conde	217.5	889.93	13.3	14,553	60.97	145	82	11	7	13.2	11.7
Northwestern	523.6	854.29	26.5	16,879	50.62	341	178	14	17	24.4	10.5
Stanley Co.	209.3	907.29	12.8	14,835	60.92	0	217	0	16	0.0	13.6
Sully Buttes	634.6	770.12	32.4	15,083	51.13	426	229	26	14	16.4	16.4
Sully Superimpose	52.5	2,408.55	0.0	21,074	114.29	0	51	0	9	0.0	5.7
Colome	340.5	733.90	18.7	13,363	54.91	291	144	13	12	22.4	12.0
Winner	1,783.8	698.37	97.3	12,803	84.90	1,217	560	78	34	15.6	16.5
Parker	633.5	666.68	31.7	13,323	137.55	427	212	19	16	22.5	13.2
Centerville	414.8	733.58	21.5	14,153	51.82	254	159	12	13	21.2	12.2
Marion	437.5	762.06	23.2	14,370	84.64	281	165	18	12	15.6	13.8
Viborg	374.9	779.38	21.5	13,590	112.22	238	128	12	12	19.8	10.7
Hurley	297.3	844.07	17.4	14,422	92.97	191	108	9	13	21.2	8.3
Jefferson	238.0	716.24	14.1	12,089	59.14	115	130	6	8	19.2	16.3
Elk Point	669.4	662.87	34.6	12,824	166.34	468	203	22	15	21.3	13.5

80

District	Dist. ADM	Cost Per ADM	CRU	Cost Per CRU	State Aid/ ADM	Elem. ADM	Secon. ADM	Elem. Tchr.	Secon. Tchr.	Elem. ADM-Tchr. Ratio	Secon. ADM-Tchr. Ratio
Beresford	966.6	$ 662.81	51.1	$12,537	$107.77	633	312	32	18	19.8	17.3
Alcester	450.3	756.83	24.3	14,024	53.89	262	183	15	12	17.5	15.2
Scott Contr.	54.3	791.51	2.7	15,918	48.93	14	0	1	0	14.0	0.0
Glenham	133.8	988.08	10.8	12,241	168.04	88	46	5	6	17.6	7.7
Mobridge	1,221.9	676.70	58.3	14,183	169.51	878	339	47	23	18.7	14.7
Selby	488.8	820.15	24.8	16,165	50.80	353	161	21	13	16.8	12.4
Java	179.8	934.74	11.9	14,123	86.86	109	70	6	9	18.2	7.8
Yankton	3,362.1	674.61	156.4	14,502	108.12	2,360	1,027	114	57	20.7	18.0
Irene	377.7	798.09	22.1	13,639	128.17	266	130	14	13	19.0	10.0
Gayville Volin	254.4	925.33	15.1	15,589	125.85	168	83	12	7	14.0	11.9
West River	637.4	875.96	35.8	15,596	56.11	454	186	28	18	16.2	10.3
Shannon Co.	1,543.7	832.49	58.4	22,005	210.85	1,260	251	61	2	20.7	125.5
Todd Co.	1,995.5	1,171.45	95.1	24,580	244.13	1,505	475	90	30	16.7	15.8

THE ECONOMIC STATUS OF TEACHING PERSONNEL*

Introduction

The education industry is labor intensive. That is to say, personnel costs are the major input to the education production function. During the 1971-72 school year, teacher and other instructional staff salaries accounted for approximately 64 percent of the 121.7 millions of dollars expended for elementary and secondary education in South Dakota. Salaries for administrators, secretarial and clerical assistants, operations and maintenance workers, health services, bus drivers and other staff services consumed a significant proportion of the remaining educational expenditure. And, given the increasing pressures from teacher unions to maintain parity between teacher's salaries and other professional groups have caused no small consternation among state legislators and school boards who must adjudicate these and other social service demands.

The primary purpose of this chapter is to establish the economic status of South Dakota's elementary and secondary school teaching personnel. Other economic, educational and demographic data affecting the teaching force is also presented for purposes of analysis. Secondly, a profile of the teaching staff is developed relative to training, experience, age, etc. Finally, a set of recommendations relative to establishing teaching salary levels and methods of financing those levels is offered.

The presentation and analysis of data in this chapter is made as though one were viewing a set of concentric circles. Although the subject remains central to one's view (teaching salaries in our case), a greater perspective is gained as one considers the context within which the subject is established. South Dakota has been said to be a state of many lands. The rolling farmlands east of the Missouri River share economic kinship with the neighboring farm states of Minnesota, Iowa and Nebraska while the wheat fields of the central and northwestern part of the state establish economic ties with North Dakota. Cattle production (South Dakota ranked 7th among all states in 1967) economically links South Dakota to its neighbors, Nebraska, Wyoming, Montana and North Dakota. Similarly, the average farm income of South Dakota's neighbors in 1966 was the approximate average farm income of South Dakota farmers. Although the National Education Association groups South Dakota with other Plains States for purposes of educational data comparisons, this study chose to analyze South Dakota data within the context of its bordering neighbors. Those neighboring states are Iowa, Minnesota, Montana, Nebraska, North Dakota and Wyoming. Thus, the first of the concentric circles is formed--South Dakota and its neighbors.

---

*A study performed by James Hale, Department of Educational Administration, University of New Mexico.

South Dakota and Neighboring States

Economic Status

Between 1966 and 1969 the per capita income in South Dakota was consistently less than the Regional Average. However, since 1970 per capita income in South Dakota has exceeded the Regional Average, although the state never reached the National Average in per capita income during the six-year period. The Regional Average per capita income increased 39 percent during the period and was equal to the National Average increase. South Dakota leads all regional states with a 55 percent increase which represented a nine percent margin over second place North Dakota, 16 percent more than the regional gain and 27 percent greater gain than Iowa and Wyoming. These dramatic increases are somewhat auspicated by the fact that South Dakota had the lowest per capita income in the region for 1966 and therefore a smaller computational base.

A measure found to be more predictive of fiscal capacity is the Effective Buying Income per Household computed by Sales Management magazine.[1] Essentially the measure represents the number of dollars available to a household for consumption and savings. Table 1 presents the Effective Buying Income per Household (EBI) for the period 1966-71 in the selected regional states. Although South Dakota was lowest among the regional states in EBI for 1966, it was exceeded only by Minnesota and Iowa on that measure in 1971. And, although South Dakota was approximately 7.5 percent below the Regional Average in 1966, it was approximately 3.5 percent above the Regional Average in 1971.

A more thorough analysis of the changes in EBI is offered in Table 2 where both the dollar amounts and percentage increases (decreases) are presented. Again, South Dakota led the region in percentage increase and dollar increase in EBI during that period. The gains also exceed both the Regional and National Average increases. One may safely conclude that some South Dakotans were significantly better situated economically in 1971 than 1966 and were in an economically better position in 1971 than its neighbors except for Minnesota and Iowa.

Another analytical measure used to assess the economic health of a state is to determine the income distribution among households in the state. Table 3 presents the Income Distribution for 1971 in Selected Regional States. The Table identifies the percent of households in each income category and the percent of the state's total income received by those households. For example, for 1971 it was determined that 18.7 percent of South Dakota households had incomes of $2,999 or less and only 2.7 percent of the state's total income for that year was received by those households. Only Montana had a greater percentage of its households receiving incomes of $2,999 or less. Concomitantly, 15.5 percent of the South Dakota households earned $15,000 or more and received more than 42 percent of the state's income.

TABLE 1. Effective Buying Income Per Household for 1966-71 in Selected Regional States

YEAR / STATE	1966	1967	1968	1969	1970	1971
Iowa	$8,416	$9,022	$9,213	$ 9,617	$10,377	$10,992
Minnesota	8,588	9,098	9,599	10,189	10,543	11,289
Montana	7,621	7,867	8,130	8,500	9,436	9,631
Nebraska	8,181	8,569	8,845	9,277	10,308	10,710
North Dakota	8,026	8,218	8,352	8,889	9,882	10,856
Wyoming	7,837	7,647	8,349	9,321	9,713	9,581
South Dakota	$7,432	$7,716	$8,117	$ 8,971	$ 9,775	$10,935
Regional Av.	$8,014	$8,305	$8,657	$ 9,252	$10,005	$10,570
National Av.	$8,532	$9,012	$9,592	$10,048	$10,565	$11,332

SOURCE: Sales Management - June 10, 1967 - July 10, 1972

TABLE 2. Dollar and Percentage Increase in Effective Buying Income Per Household for 1966-71 in Selected Regional States

YEAR / STATE	1966-67 Increase in $	Percent Increase	1967-68 Increase in $	Percent Increase	1968-69 Increase in $	Percent Increase
Iowa	$606	7.2	$191	2.1	$404	4.4
Minnesota	510	5.9	501	5.5	590	6.1
Montana	246	3.2	263	3.3	370	4.6
Nebraska	388	4.7	276	3.1	432	4.9
North Dakota	192	2.3	134	1.6	537	6.4
Wyoming	190	2.4	702	8.4	972	11.6
South Dakota	$284	3.8	$401	5.2	$854	10.5
Regional Av.	$345	4.3	$352	4.2	$595	6.9
National Av.	$480	5.6	$580	6.4	$456	4.8

TABLE 2. (Continued)

STATE \ YEAR	1969-70 Increase in $	Percent Increase	1970-71 Increase in $	Percent Increase	1966-71 Increase in $	Percent Increase
Iowa	$ 760	7.9	$ 615	5.9	$2,576	30.6
Minnesota	354	3.5	746	7.1	2,701	31.5
Montana	936	11.0	195	2.1	2,040	26.4
Nebraska	1,031	11.1	402	4.0	2,529	30.9
North Dakota	993	11.2	974	9.9	2,830	35.3
Wyoming	392	4.2	(132)	(1.4)	1,744	22.4
South Dakota	$ 804	9.0	$1,160	11.9	$3,503	47.1
Regional Av.	$ 753	8.1	$ 565	5.6	$2,556	31.9
National Av.	$ 517	5.1	$ 767	7.3	$2,800	33.8

TABLE 9. Income Distribution in 1971 in Selected Regional States

INCOME / STATE	0 - 2,999 Percent Hsld.	Percent Inc.	3,000 - 4,999 Percent Hsld.	Percent Inc.	5,000 - 7,999 Percent Hsld.	Percent Inc.
Iowa	17.0	2.4	11.2	4.4	18.9	12.2
Minnesota	15.1	2.1	10.4	4.0	19.4	12.2
Montana	19.6	3.2	12.1	5.5	22.4	16.5
Nebraska	16.4	2.4	11.8	4.8	20.7	13.7
North Dakota	16.8	2.5	11.9	4.9	21.4	14.2
Wyoming	18.3	3.0	12.1	5.6	24.8	18.4
South Dakota	18.7	2.7	12.4	5.0	19.4	12.7
Regional Av.	17.4	2.6	11.7	4.9	2..0	14.3
National Av.	15.6	2.1	10.8	4.1	20.2	12.7

TABLE 3. (Continued)

STATE \ INCOME	8,000 - 9,999		10,000 - 14,999		15,000 & Over	
	Percent Hsld.	Percent Inc.	Percent Hsld.	Percent Inc.	Percent Hsld.	Percent Inc.
Iowa	14.3	12.6	23.0	27.2	15.6	41.2
Minnesota	15.6	13.3	24.2	27.7	15.3	40.7
Montana	15.4	15.4	19.5	26.2	11.0	33.2
Nebraska	14.6	13.1	22.3	27.0	14.2	39.0
North Dakota	14.0	12.8	21.1	25.7	14.8	39.9
Wyoming	16.4	16.6	17.5	23.6	10.9	32.8
South Dakota	12.7	11.4	21.3	25.6	15.5	42.6
Regional Av.	14.7	13.6	21.3	26.1	13.9	38.5
National Av.	14.7	12.5	22.3	25.2	16.4	43.4

SOURCE: Sales Management - July 10, 1972

Although South Dakota does not differ significantly from the Regional and National Average in any of the categories, it is this type of analysis that alarms many economists. It is clear that a small percentage of the population is receiving a disproportionate share of the earned income. At the same time, the percentage of the population identified in the low-income households is growing. Ideally, income would be distributed among the national (state) population in a manner similar to the classical "normal probability curve." In that distribution less than 5 percent of the nation's households would have annual incomes of $2,999 or less and less than 5 percent of the population would have annual incomes of $15,000 or more.

The data in Table 3 provides a significantly different view of the economic health of a state than the per household income reported in Table 1 and analytically reported in Table 2. From Table 3 one can readily see that over 68 percent of South Dakota's income is received by households earning $10,000 per year or more. However, only about 37 percent of the households are in the $10,000 or greater income category. Thus, when the averaging was done to develop Table 1 (total state income divided by total number of households) a significant overstatement of the economic well-being of people was made. Conversely, given the commonality of the distribution by income category, although dismal as the total distribution may seem, the fact that commonality exists among and between the income categories maintains the analytical value of Table 1 and Table 2.

The foregoing data are necessary to establish the relative economic status of teaching personnel, although those comparisons will be made in another section of this chapter. Attention is now given to the relative educational task among the regional states by assessing the target population--the students.

Student Population

Table 4 establishes the student populations in the selected regional states for 1970. Although South Dakota is the median state in Nursery School enrollment, it has the largest percent of its Nursery School-age children enrolled in public programs. Conversely, Minnesota has the largest Nursery School-age population but the smallest percentage of those children enrolled in public programs. South Dakota also has the largest number of its Kindergarten-age children enrolled in public schools. Although Iowa has a lesser percentage of its Kindergarten-age children in private programs (2 percent compared to South Dakota's 3 percent), they also have almost four times as many Kindergarten-age children enrolled as does South Dakota. The number of Elementary and Secondary school-age children in South Dakota compares favorably with both Montana and North Dakota although South Dakota maintains the largest percentage of those students in public programs.

TABLE 4. School Enrollment in Selected Regional States - 1970

SCHOOL ENROLLMENT / STATE	Nursery Sch.		Kindergarten		Elementary		High School	
	TOTAL	PUBLIC	TOTAL	PUBLIC	TOTAL	PUBLIC	TOTAL	PUBLIC
Iowa	9,920	3,576	52,224	50,849	454,978	404,074	211,097	191,404
Minnesota	15,976	4,313	70,140	66,833	652,543	561,493	303,987	278,062
Montana	1,596	795	8,093	5,322	123,209	116,006	55,922	52,142
Nebraska	6,375	2,036	27,230	26,150	240,706	204,625	110,915	97,666
North Dakota	1,025	477	6,801	5,130	108,062	99,723	51,072	47,822
Wyoming	798	352	5,393	5,045	56,702	54,641	25,731	25,126
South Dakota	1,667	1,008	11,375	11,022	115,683	107,451	54,014	52,042
Regional Av.	5,337	1,794	25,894	24,336	250,269	221,145	116,106	106,452

SOURCE: U.S. Summary - General Social and Economic Characteristics. U.S. Department of Commerce, Page 1 - 490.

Like most states in the nation, South Dakota public school enrollment is declining due to the reduced birth rate during the last half of the 1960's. Figure 1 graphically illustrates the rise and fall in public school enrollment in South Dakota between 1966 and 1972. The significant increase between 1966 and 1968 may be attributed to the early childhood programs funded under the Elementary and Secondary Education Act of 1965 and its amendments. Beginning in 1968 the public school enrollment continued to decline as rapidly as it increased the previous two years. And; although enrollment increased by about 400 students between 1970 and 1971 the steady rate of decline continued following 1971 and is expected to continue declining through 1974. The South Dakota State Department of Education has projected the 1973-74 public school enrollment to be approximately 170,000 students. That number represents more than 1,600 students less than those enrolled in the 1971-72 school year.

The estimated racial/ethnic group enrollments in the selected regional states are reported in Table 5. South Dakota is second only to Montana in the percentage of American Indian student enrollment. South Dakota and Montana share the lowest percentage of Negro student enrollment and South Dakota remains lowest in percentage of Oriental and Spanish American children enrolled in the public schools. The data in Table 1, developed by the U.S. Department of Health, Education and Welfare's Office of Civil Rights, provides some insight into the extended educational tasks associated with differing cultural groups. More will be said about this aspect in the section on teaching staff.

Teacher Populations

One of the more direct approaches to assessing market conditions for a product is to determine how well the product is moving--that is in this case, to what extent are college graduates holding teaching certificates gainfully employed within the education industry. Figure 3 represents the data from a 1972 N.E.A. study on "Teacher Supply and Demand in Public Schools". By establishing demand as 100 percent determined need (as reported by school districts) and then plotting teacher education graduates as a percent of new teachers employed, one is immediately confronted by two facts. First, there has never been a shortage of secondary teachers for the years reported. That fact is readily mediated when one remembers that the graphs represent aggregated data. A closer inspection of the data reveals that we have consistently over-produced secondary teachers of agriculture, art, biology, physical education, and social studies, among others; while a short supply is evidenced for some years in the areas of chemistry, mathematics, library science and a few others. Currently our deficient supply seems to be in the areas of mathematics and special education although not critically so.

Probably the most critical variable in the supply-demand relationship and the variable most often discussed at collective bargaining sessions is the number of pupils per teacher or commonly termed the "pupil-teacher

TABLE 5. 1970 Student Enrollment in Selected Regional States by Racial/Ethnic Group (Estimated State Totals and Percentages)

STATE \ GROUP	American Indian		Negro		Oriental		Spanish American		Total Minority		Others		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Iowa	526	00.1	10341	01.5	665	00.1	2646	00.4	14178	02.1	636334	97.8	650512	100
Minnesota	7172	00.8	10134	01.1	1755	00.2	3987	00.4	23048	02.6	865416	97.4	888465	100
Montana	8474	05.5	424	00.2	460	00.3	1786	01.2	11144	07.3	140645	92.7	151789	100
Nebraska	2150	00.7	12905	04.6	528	00.2	4067	01.4	19650	07.0	260271	93.0	279921	100
North Dakota	1133	00.9	653	00.5	248	00.2	313	00.3	2348	01.9	117360	98.1	119708	100
Wyoming	916	01.1	839	01.0	274	00.3	5008	06.3	7037	08.9	71761	91.1	78798	100
South Dakota	7536	05.0	397	00.2	224	00.1	372	00.2	8530	05.6	142036	94.4	150566	100
Regional Av.	3986	01.2	5099	01.5	593	00.1	2597	00.7	12276	03.7	319117	96.3	331394	100
National Av.	3945	00.4	134255	14.9	4182	00.5	45500	05.1	187883	20.9	710324	79.1	898207	100

SOURCE: Directory of Public Elementary and Secondary Schools in Selected Districts, Enrollment and Staff by Racial/Ethnic Group Fall, 1970, U.S. Department of Health, Education and Welfare/Office for Civil Rights, 1972.

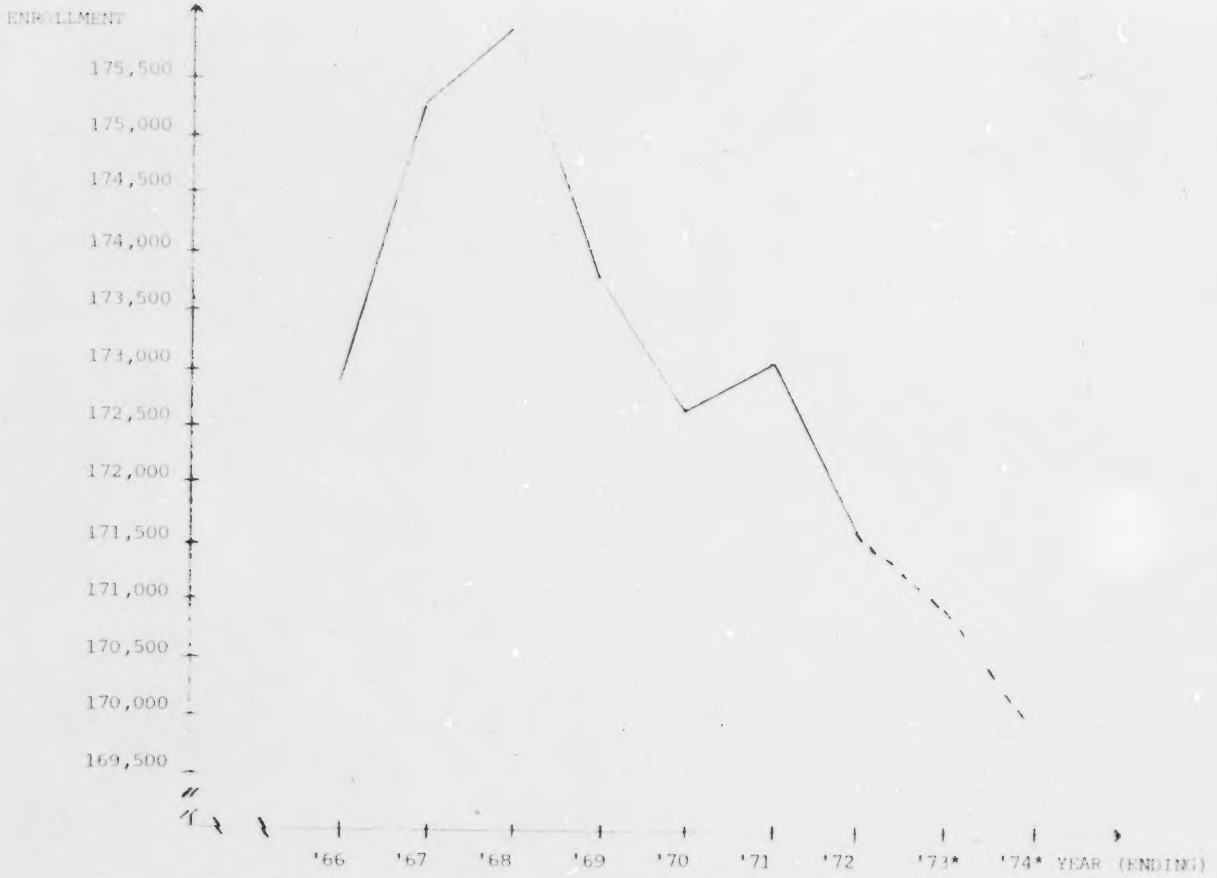


FIGURE 1. South Dakota School Enrollment 1966 - 74

* Estimates

Data Source: 1970-72 Educational Statistics Digest, South Dakota State Department of Education

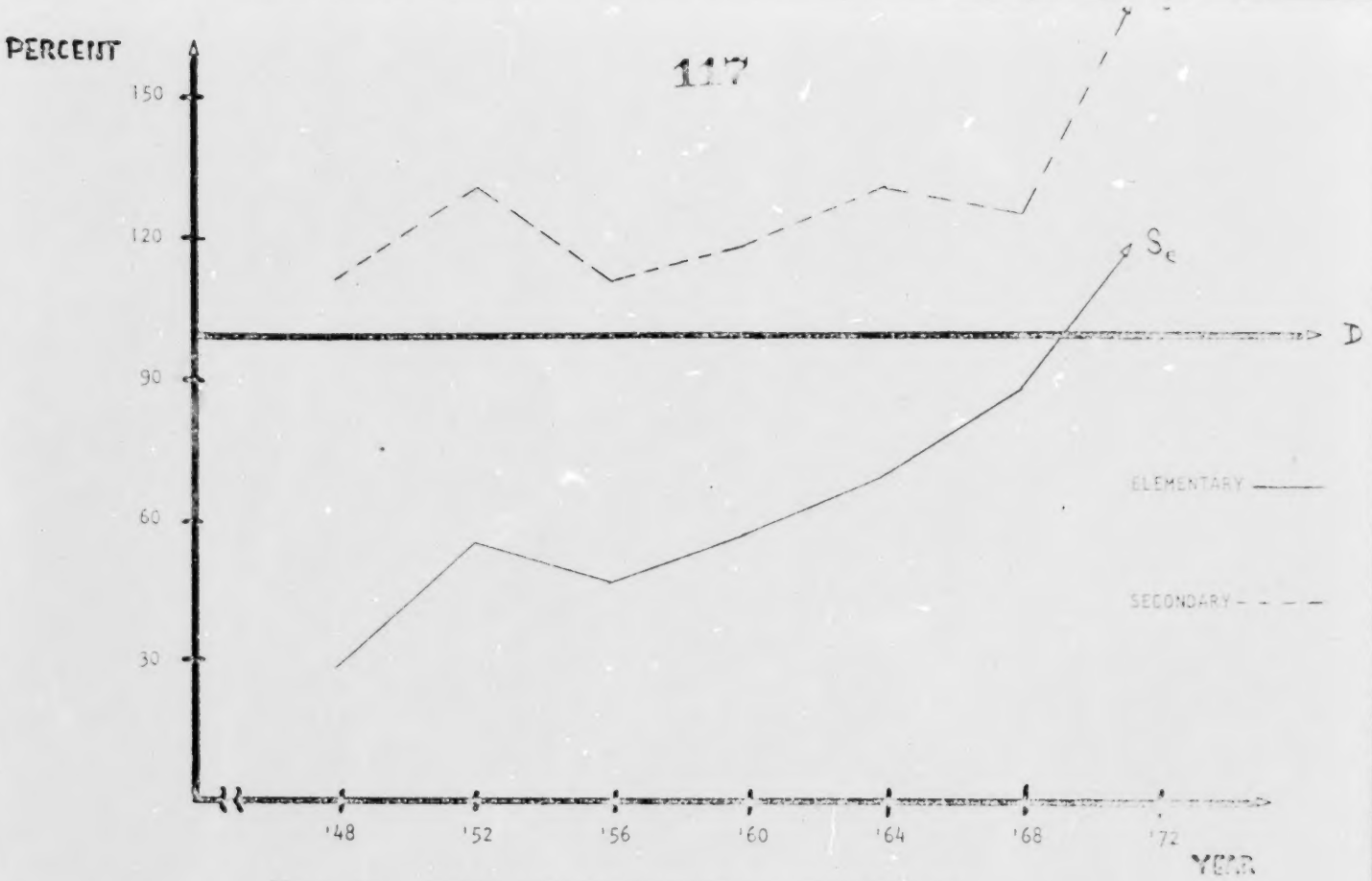


Figure 2 - - TEACHER EDUCATION GRADUATES AS A PERCENT OF NEW TEACHERS EMPLOYED IN SELECTED STATES

Source: Teacher Supply and Demand in Public Schools, 1972, NEA Research Report 1972-R8

ratio". Obviously, if the number of pupils per teacher is reduced then more teachers must be employed and conversely. It has often been a practice among teachers and administrators to compare pupil-teacher ratios between school districts and between states. Table 6 is such a comparison for South Dakota and neighboring states. The Table does provide a perspective of the relative work-load carried by the average teacher in each of the respective states. Teachers, like other individuals, are sensitive to relationships that may identify relative equity among and between themselves. The pupil-teacher ratio is one such relationship.

Table 6 reveals that South Dakota has consistently had pupil-teacher ratios in the elementary grades below both the Regional and National Averages and below all of the neighboring states. This fact may be attributed to the relatively large number of small schools having less than five teachers and with small enrollments. Beginning in 1968 the pupil-teacher ratios for South Dakota were adjusted to include the seventh and eighth grades in the secondary computation. Since higher pupil-teacher ratios are commonly found in those grades, the effect was to increase the secondary ratios for the following years. On the state average South Dakota easily meets the National Education Association's Quality Criterion measure of 24 elementary pupils per teacher. Although a secondary Quality Criterion was not identified, the 1971 level of 22.2 students per teacher seems reasonable.

Table 7 compares the instructional staffs of the selected states by racial/ethnic group. The first column identifies the estimated number of professional persons employed in each of the states by racial/ethnic designation. The second column identifies the percentage of the state's total instructional staff represented by that group. For example, in 1970 it was estimated by the Office of Civil Rights that nine American Indians were members of South Dakota's instructional staff. Those nine persons represented 0.1 percent of the state's total instructional staff.

The staff percentages in Table 7 are compared to the student enrollment percentages presented earlier in the chapter as Table 5 to develop Table 8. Table 8 compares the percentage of both students and teachers by racial/ethnic group and further identifies the percentage difference. For example, in 1970, 5 percent of South Dakota's student population was American Indian but only 0.1 percent of the instructional staff was American Indian. The difference is shown as a negative 4.9 percent by placing the percentage in parenthesis.

American Indians represent the largest racial/ethnic group in the region. Montana employs the largest percentage of American Indians on its instructional staff but only marginally compared to the student enrollment. Wyoming is similarly situated with regard to their Spanish American enrollment and Spanish American instructional staff. Although these percentages do not represent wide variances, it seems creditable to suggest that a 5 percent variance would be sufficient reason for the Office of Civil Rights to ask "Why?"

TABLE 6. Elementary and Secondary Pupil-Teacher Ratios in Selected Regional States for 1966-71

YEAR / STATE	1966		1967		1968		1969		1970		1971[2]	
	Ele P/T	Sec P/T	Ele P/T	Sec P/T	Ele P/T	Sec P/T	Ele P/T	Sec P/T	Ele P/T	Sec P/T	Ele P/T	Sec P/T
Iowa	27.5[1]	13.0[1]	20.7	20.6	27.9[1]	11.8[1]	21.0	18.8	22.6	17.8	22.4	17.6
Minnesota	25.6	19.9	25.5	19.8	24.5	19.8	24.1	19.6	23.3	19.0	23.0	18.8
Montana	21.7	20.7	20.5	22.2	20.6	22.1	19.9	22.2	21.2	20.5	21.2	20.2
Nebraska	21.4	18.4	22.0	18.4	21.7	17.0	21.7	17.0	20.9	17.1	20.6	17.1
North Dakota	22.2	17.1	21.7	17.1	21.8	18.0	21.4	16.4	20.8	17.0	20.4	16.8
Wyoming	21.8	17.6	21.2	17.5	21.1	17.8	20.7	18.1	20.3	17.8	20.0	17.8
South Dakota	20.2[1]	15.5[1]	19.2[1]	15.6[1]	15.7	22.7	15.7	24.4	16.1	24.1	16.1	22.2
Regional Av.	22.9	17.5	21.5	18.7	21.9	18.5	20.6	19.5	27.7	19.0	20.5	18.9
National Av.	27.0	20.3	26.3	20.3	25.4	20.3	24.8	20.0	24.3	19.8	24.1	19.7

[1]Kindergarten through 8th grade for elementary and grades 9-12 for secondary
[2]Estimate

SOURCE: Digest of Educational Statistics 1967-71, Department of Health, Education and Welfare.

TABLE 7. 1970 Instructional Staff in Selected Regional States by Racial/Ethnic Group (Estimated State Totals and Percentages)

GROUP / STATE	American Indian		Negro		Oriental		Spanish American		Total Minority		Others		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Iowa	5	-	124	00.4	32	00.1	40	00.1	201	00.6	30551	99.4	30753	100
Minnesota	55	00.1	227	00.5	56	00.1	44	00.1	382	00.9	39856	99.1	40236	100
Montana	37	00.5	4	00.1	10	00.1	8	00.1	59	00.8	6740	99.2	6799	100
Nebraska	10	00.1	167	01.3	16	00.1	29	00.2	222	01.7	12511	98.3	12733	100
North Dakota	7	00.1	7	00.1	5	00.1	6	-	19	00.3	5273	99.7	5292	100
Wyoming	2	00.1	3	00.1	3	00.1	34	00.8	42	01.1	3787	98.9	3830	100
South Dakota	9	00.1	5	00.1	1	-	7	00.1	22	00.3	7193	99.7	7215	100
Regional Av.	18	00.1	77	00.5	17	00.1	23	00.1	135	00.8	15130	99.2	15265	100
National Av.	48	00.1	3618	09.4	126	00.3	374	01.0	4167	10.8	34276	89.2	38443	100

SOURCE: Directory of Public Elementary and Secondary Schools in Selected Districts, Enrollment and Staff by Racial/Ethnic Group Fall, 1970, U.S. Department of Health, Education and Welfare/Office for Civil Rights, 1972.

TABLE 8. Comparison of Percentages of Student Enrollment and Staff in Selected Regional States for 1970 by Racial/Ethnic Group (Estimated State Percentages)

GROUP / STATE	American Indian			Negro			Oriental			Spanish American			Others		
	% Stud.	% Tchrs.	% Diff.	% Stud.	% Tchrs.	% Diff.	% Stud.	% Tchrs.	% Diff.	% Stud.	% Tchrs.	% Diff.	% Stud.	% Tchrs.	% Diff.
Iowa	0.1	-	(0.1)*	1.5	0.4	(1.1)	0.1	0.1	-	0.4	0.1	(0.3)	97.8	99.4	1.6
Minnesota	0.8	0.1	(0.7)	1.1	0.5	(0.6)	0.2	0.1	(0.1)	0.4	0.1	(0.3)	97.6	99.1	1.7
Montana	5.5	0.5	(5.0)	0.2	0.1	(0.1)	0.3	0.1	(0.2)	1.2	0.1	(1.1)	92.7	99.2	6.5
Nebraska	0.7	0.1	(0.6)	4.6	1.3	(3.3)	0.2	0.1	(0.1)	1.4	0.2	(1.2)	93.0	98.3	6.3
North Dakota	0.9	0.1	(0.8)	0.5	0.1	(0.4)	0.2	0.1	(0.1)	0.3	-	(0.3)	98.1	99.7	1.6
Wyoming	1.1	0.1	(1.0)	1.0	0.1	(0.9)	0.3	0.1	(0.2)	6.3	0.8	(5.5)	91.1	98.9	7.8
South Dakota	5.0	0.1	(4.9)	0.2	0.1	(0.1)	0.1	-	(0.1)	0.2	0.1	(0.1)	94.4	99.7	5.3
Regional Av.	1.2	0.1	(1.1)	1.5	0.5	(1.0)	0.1	0.1	-	0.7	0.1	(0.6)	96.3	99.2	2.9
National Av.	0.4	0.1	(0.3)	14.9	9.4	(5.5)	0.5	0.3	(0.2)	5.1	1.0	(4.1)	79.1	89.2	10.1

* ( ) indicates negative

Economic Status of Teachers

The opening paragraphs of this chapter alluded to the increasing militancy among teacher-organizations in their efforts to establish parity between teacher salaries and other professional groups. Disagreements between teachers and school boards over salary policies are not of recent vintage, although the intensity and regularity of those disagreements resulting from collective bargaining statutes and other organized strategies of teacher-groups in the absence of collective bargaining statutes may be identified with the 1960's. This condition arises from a time-honored principle of personnel administration which recognizes that all measuring devices utilized to determine remuneration policies contain elements of arbitrary calculations. This admission is not seen as a weakness but as a realistic recognition that establishing the worth of an individual is not the exclusive domain of the calculus. This argument has been a predominant one within the education profession especially when educators are presented salary proposals based upon credit/hour production, cognitive achievement of students, and so forth.

Historically, the factors of remuneration policies have been:

1. An individuals contribution to the educational enterprise. For the most part, those contributions have been measured with such vagaries as "gets along well with children", "gets along well with colleagues", etc. It is those indefinite measures that the scientific-measurement people would like to challenge although their notions are not dissimilar to Frederick Taylor's scientific management proposals and little evidence has been offered to cause one to assume the measuring devices are any less arbitrary now than they were fifty years ago. However, there is increasing evidence that a teacher's verbal ability correlates highly with their students verbal ability.[2] And, if increased verbal ability of students is seen as one contribution to the educational tasks then this measure may, following more research, become a future "contribution indicator".

2. The efforts put forth by individuals in the forms of time, energy (physical, mental and emotional) and cooperative attitudes have long been measures of teacher quality. These measures have, more often than one would like to admit, been assessed irrespective of an individual's utilitarian contribution to organizational goals. However, the problems identified with this policy are not exclusive to the education industry. Although The Peter Principle has popularized the concept within the educational establishment other industries have long experienced similar problems. The fact of the matter is that the literature assessing motivation, absenteeism, alcoholism, etc., generally comes from studies in Business Administrative Sciences.

3. The forces associated with custom, tradition, and general reluctance to change must be recognized as being potential controlling factors when setting salary policies. Other factors in remuneration

policies which are of more recent import to the educational industry are those long experienced by other industries as a result of the organized labor movement. For example, cost-of-living or "escalator clauses" are negotiated into almost all industrial collective bargaining agreements. Recognition of the fact has recently created pressures on social institutions (e.g., government, hospitals, etc.) to include that feature in their compensation packages. Further, one can detect acceptance of this concept in the rhetoric of state legislators during debate on educational legislation designed to increase teacher salaries by such phrases as "a cost-of-living-allowance."

It is not a purpose of this study to explore the ramifications of collective bargaining as it relates to educational employment. However, there are two theoretical propositions related to collective bargaining that will be briefly discussed. Firstly, is the "lump of work" theory. In industrial organizations this principle translates -- a worker should take it easy on the job or he will work himself out of a job.[2] This notion is closely associated with the "featherbedding" concept that has recently been charged against the rail-workers. In the education industry the principle is applied in discussions about pupil-teacher ratios and teacher-aides to handle special duty assignments and other non-teaching tasks. Essentially it is an effort to re-define traditional teaching tasks. Secondly, is the "equality-of-workers" theory. This principle asserts that all workers on a given type of job are economically equal. Application of the principle usually manifests itself through worker classifications and seniority rules which are readily acceptable to workers and the principle tends to eliminate controversies between workers of varying ability. This principle has long been practiced throughout the education industry. Salary schedules based on training and experience are worker classification structures based on two dimensions of supposed merit. Thus, the foregoing two principles ("theories") are directly applicable to the educational industry in that one attempts to re-define the traditional teaching tasks (which may have merit) and the other tends to reduce conflict between persons engaged in similar activities (which may also have merit).

Remuneration policies must be given proper perspective in the overall personnel administration program. Neither overemphasis nor underemphasis will serve the organization since wages alone will not increase productivity. Teacher morale and productivity are more often associated with working conditions, achievement, recognition and responsibility than with salaries.[3]

The search for evidence to establish the principle of worker-equity ultimately concludes with an analysis of wages received for comparable work. Comparable work was partially established for the regional states through the presentation of pupil-teacher ratios. Comparable compensation for that work is established in Table 9.

Obviously, there are differences in ability between teachers both inter-state and intra-state as there are differences in ability

between persons in other areas of economic activity. But just as obvious is the fact that teacher-associations (unions) subscribe to the principle of worker-equity and the unit of analysis here is average practice; therefore, it is appropriate to assess aggregated data as though one were discussing conditions relevant to all teachers.

The average classroom teacher's salary in South Dakota has been consistently less than the average classroom teacher's salary for the regional states. Further, South Dakota teachers have received significantly less salary than their National counterparts between 1966 and 1971.

Table 10 presents both the dollar amount and percentage of increase in average teacher salaries for the period. Only in 1969 did South Dakota teachers receive an increase in average salary greater than the Regional and/or National Average. Although South Dakota's percentage of increase for the period (46.9) was greater than the Regional (44.7) and National (42.4) Averages one must remember that the average South Dakota teaching salary in 1966 was only about 82 percent of the Regional Average and approximately 71 percent of the National Average. Therefore, one should be careful not to place too much emphasis on the 46.9 percent increase for the period. The period ended with South Dakota's average classroom teaching salary at approximately 83 percent of the Regional Average and about 73 percent of the National Average. Thus, South Dakota teachers only made marginal salary gains (1 percent Regional and 2 percent National) relative to their neighboring and National counterparts and maintained the dubious distinction of providing educational services for South Dakota children at between 20 and 30 percent discounts. Minnesota was the only regional state to surpass the National Average in teaching salary for 1971 although Iowa was very close. North Dakota teachers experienced a condition similar to the South Dakota teachers for the period but did manage to maintain a difference of between $300 and $500 above South Dakota for each of the years.

One argument long used to justify relatively low teacher salaries for a particular state is the non-data based assertion that teacher salaries compare favorably with other incomes for the state. Although that will be done for South Dakota in a following section of this chapter, attention is now given to comparisons of the average percent of increase in EBI per household and the average percent of increase in teacher salaries for the regional states. Two cautions should be made before any conclusions are drawn from the data presented in Table 11. First, teachers are included in the household group. Therefore, if teacher's EBI is greater or less than a state's average their income will tend to raise or lower the average EBI for the state. Second, teacher income is "before taxes" where EBI is a consumption and savings measure. Therefore, teacher income is overstated by the percent of income that must go for taxes--federal and state. Adjustments will be made for those measures in the South Dakota analysis.

The summary column of Table 11 indicates that South Dakota teacher income increased in about the same proportion as the State's EBI increased

TABLE 9. Average Salary of Classroom Teachers for 1966-71 in Selected Regional States

STATE \ YEAR	1966	1967	1968	1969	1970	1971
Iowa	$6,003	$6,396	$7,208	$7,781	$8,536	$9,129
Minnesota	6,660	6,910	7,465	8,000	8,600	9,271
Montana	5,800	6,000	6,375	6,900	7,650	8,173
Nebraska	5,225	5,619	6,068	6,585	7,526	8,120
North Dakota	5,120	5,280	5,580	6,050	6,760	7,060
Wyoming	6,118	6,450	7,052	7,252	8,282	8,687
South Dakota	4,625	4,800	5,100	5,800	6,300	6,793
Regional Av.	5,650	5,922	6,407	6,909	7,665	8,176
National Av.	6,506	6,821	7,296	7,908	8,560	9,265

SOURCE: Statistical Abstract of the United States 1966-1971, U.S. Department of Commerce.

TABLE 10. Dollar and Percentage Increase in Average Teacher Salary for 1966-71 in Selected Regional States

YEAR / STATE	1966 to 67 INCREASE $	1966 to 67 INCREASE %	1967 to 68 INCREASE $	1967 to 68 INCREASE %	1968 to 69 INCREASE $	1968 to 69 INCREASE %	1969 to 70 INCREASE $	1969 to 70 INCREASE %	1970 to 71 INCREASE $	1970 to 71 INCREASE %	SUMMARY 1966 to 71 INCREASE $	SUMMARY 1966 to 71 INCREASE %
Iowa	393	6.5	812	12.7	573	8.0	755	9.7	593	6.9	3126	52.1
Minnesota	250	3.8	555	8.0	535	7.2	600	7.5	671	7.8	2611	39.2
Montana	200	3.4	375	6.3	525	8.2	750	10.9	523	6.8	2373	40.9
Nebraska	394	7.5	449	8.0	517	8.5	941	14.3	594	7.9	2895	55.4
North Dakota	160	3.1	300	5.7	470	8.4	710	11.7	300	4.4	1940	37.9
Wyoming	332	5.4	602	9.3	200	2.8	1030	14.2	405	4.9	2569	41.9
South Dakota	175	3.7	300	6.2	700	13.7	500	8.6	493	7.8	2168	46.9
Regional Av.	272	4.8	485	8.2	502	7.8	756	10.9	511	6.7	2526	44.7
National Av.	315	4.8	475	7.0	612	8.3	652	8.2	705	8.2	2756	42.4

TABLE 11. Comparison of the Percent of Increase in Effective Buying Income Per Household and Average Salary of Classroom Teacher in Selected Regional States for 1966-1971

YEAR	1966-67		1967-68		1968-69		1969-70		1970-71		SUMMARY 1966-71	
STATE	Percent Increase Hsld.	Percent Increase Teacher	Percent Increase Hsld.	Percent Increase Teacher	Percent Increase Hsld.	Percent Increase Teacher	Percent Increase Hsld.	Percent Increase Teacher	Percent Increase Hsld.	Percent Increase Teacher	Percent Increase Hsld.	Percent Increase Teacher
Iowa	7.2%	6.5%	2.1%	12.7%	4.4%	8.0%	7.9%	9.7%	5.9%	6.9%	30.6%	52.1%
Minnesota	5.9%	3.8%	5.5%	8.0%	6.1%	7.2%	3.5%	7.5%	7.1%	7.8%	31.5%	39.2%
Montana	3.2%	3.4%	3.3%	6.3%	4.6%	8.2%	11.0%	10.9%	2.1%	6.8%	26.4%	40.9%
Nebraska	4.7%	7.5%	3.1%	8.0%	4.9%	8.5%	11.1%	14.3%	4.0%	7.9%	30.9%	55.4%
North Dakota	2.3%	3.1%	1.6%	5.7%	6.4%	8.4%	11.2%	11.7%	9.9%	4.4%	35.3%	37.9%
Wyoming	2.4%	5.4%	8.4%	9.3%	11.6%	2.8%	4.2%	14.2%	(1.4%)	4.9%	22.3%	41.9%
South Dakota	3.8%	3.7%	5.2%	6.2%	10.5%	13.7%	9.0%	8.6%	11.9%	7.8%	47.1%	46.9%
Regional Av.	4.3%	4.8%	4.2%	8.2%	6.9%	7.8%	8.1%	10.9%	5.6%	6.7%	31.9%	44.7%
National Av.	5.6%	4.8%	6.4%	7.0%	4.8%	8.3%	5.1%	8.2%	7.3%	8.2%	32.8%	42.4%

during the period. Yet, South Dakota was the only regional state in which that happened. Except for North Dakota and South Dakota, all other regional states provided teacher salaries increases for the period significantly greater than EBI increases. The net effect upon North Dakota and South Dakota teachers was that their household's economic position was less than the average household's economic position in the respective states at the end of the analysis period. (Recall that teacher salaries are "before taxes" and EBI is after taxes.) It is also worthy to note that the Consumer Price Index increased approximately 22 percent during the period and thereby negated about one-half of the economic gains of all households.

A factor which contributes significantly to the average salary computation is the relative position of groups of teachers on their districts' salary schedule. Therefore, the average teaching salary may be high (low) for a particular state if a large percentage of the state's teachers are high (low) on the salary schedules of their respective school districts. Table 12 illustrates the percentage distribution of teachers by salary classes for 1971. Because classroom teacher's salaries are normally a function of training and experience one cannot make definitive statements about worker-equity from the data presented in Table 12. However, given training and experience and the propensity to fund teacher salaries, Table 12 places the teaching staffs of the selected states into income categories that may be compared to household income categories presented earlier in Table 3. For example, from Table 3 it is determined that 36.8 percent of the South Dakota households had incomes of $10,000 or more and from Table 12 it is determined that 7.4 percent of South Dakota's teachers had incomes of $9,500 or more. And, 49.4 percent of the South Dakota teachers had incomes less than $6,500 while more than 40 percent of the total households had incomes below that level. It would be erroneous to conclude that teacher's income categories are distributed in a manner similar to EBI categories because the majority of the 49.4 percent of teachers earning $6,500 or less earned between $5,000 and $6,500. On the other hand, over 18 percent of the non-teacher households earned less than $3,000.

Only North Dakota had a lesser percentage of it's teachers earning $9,500 or more. Except for North Dakota and South Dakota all other state's teacher salary categories and the National Average are positively skewed, i.e., the largest percentage of the teaching force is located within the upper income categories. The opposite skewed distribution is true for both North Dakota and South Dakota, i.e., the largest percentage of their teaching staffs are located in the lower income categories. It was pointed out earlier in this chapter that North Dakota and South Dakota teachers were providing educational services at between 20 and 30 percent discount rates. That fact is again reinforced by the foregoing analysis. Teachers are commonly perceived to be "middle-income" citizens. Such is not the case in South Dakota. Compared to the per household income distribution given in Table 3, Montana and Wyoming teachers more closely approach the expected teacher salary distribution evidenced in Table 12.

TABLE 12. Percent Distribution of Teachers by Salary for 1971 in Selected Regional States

STATE \ SALARY	Under $6,500	$6,500 $7,499	$7,500 $8,499	$8,500 $9,499	$9,500 and over
Iowa	4.2%	13.7%	21.5%	15.6%	45.0%
Minnesota	0.7%	10.5%	23.8%	27.8%	37.2%
Montana	8.5%	28.6%	29.5%	17.2%	16.3%
Nebraska	17.5%	23.7%	19.0%	16.5%	23.3%
North Dakota	40.0%	28.0%	17.0%	8.7%	6.3%
Wyoming	4.6%	21.4%	21.8%	21.8%	30.4%
South Dakota	49.4%	20.4%	13.4%	9.4%	7.4%
Regional Av.	17.8%	20.9%	20.9%	16.7%	23.7%
National Av.	8.7%	15.6%	18.4%	16.7%	40.7%

SOURCE: Statistical Abstract of the United States 1971, U. S. Department of Commerce

It was not deemed necessary to adjust teacher's average salary to the after-taxes consumption index reflected in per household effective buying income (EBI) for purposes of the foregoing analyses. The rationale for that conspicuous omission centers around the two facts that public school teachers are normally employed through school-year contracts requiring a specific number of days service and that employment contract is the teachers household income. The rationale may be further substantiated through a statistical adjustment of teachers' work year. Although that adjustment is more relevant to comparisons of teachers' salaries to salaries in other occupations (such an analysis is given below), it is recognized here to auspicate concern relative to the foregoing analyses.

Assuming a school-year contract requiring 196 days service, a teacher would be employed an equivalent of 39.2 work-weeks. Adding eight paid holidays (for which teachers are not paid) yields another 1.6 work-weeks. Then, 20 days annual vacation (not extreme for persons with an average of 11 years service) represents another 4.0 work-weeks. The total of 44.8 work-weeks is about 86 percent of a work-year. The 14 percent difference would represent the approximate tax burden experienced by teachers and therefore average salaries of teachers before taxes compare favorably with EBI.

No private or governmental agency systematically provides comparative analysis of salaries received by various professional and occupational groups. Occasional data are reported by the Department of Labor and various professional associations relative to their particular focus. Some college and university placement centers tabulate starting salaries offered their graduates but that data is not widely circulated. The National Education Association's Research Division has, in recent years, attempted to bring together data that could be interpreted to establish the relative income of teachers and other occupational groups. Although that organization is clearly aware of the pitfalls encountered when making such statistical comparisons, they do a most credible job in attempting to control both conceptual and statistical variances in their design and in their data.

A greater degree of conceptual difficulty exists when comparing teacher salaries to other professional groups than exists in comparing teachers to teachers. Again, because comparisons are being made between people, the whole question of the value of persons often confounds such attempts. Although that difficult question is usually set aside by the rationale that the discussion is about income status and not worth, the question of comparability of professions and/or occupational groups is not so easily and arbitrarily dismissed. Often such criteria as preparation required (time and scope) and responsibilities assumed provide the basis for comparisons. Finally, teacher salaries must be statistically adjusted to an annual basis. The NEA-Research Division does that by taking the sum of 8/12 of one years salary and 4/12 of the following years salary. The technique does not seem to be defensible because teachers do not work 12 months per year.

In reporting the calendar-year average salary of teachers compared to other occupational groups for 1950 through 1970, it was determined that teacher's salaries surpassed wage and salary workers (all industries) in 1954 and held a 14.5 percent advantage in 1970. Teaching salaries surpassed employees in manufacturing in 1967 and held an approximate 8 percent advantage in 1970. Finally, average teacher salaries have never reached the level of average salaries received by civilian employees of the federal government and were about 20 percent below that group in 1970. When the latter group is adjusted to include only non-supervisory employees the teacher salary deficit drops to approximately 4.4 percent.

It seems appropriate to compare teacher salaries to other government professional salaries for two reasons. First, governments (federal, state and local) must, within revenue limits, maintain competitive salary structures to attract accountants, agricultural agents, biologist, chemist and engineers, among others. Second, this comparison does not encounter the controversy centering around the differences in government employment versus private employment. Certainly there are differences in role behavior in many instances, but the arguments seem to be unnecessary given the wide range of professionals employed by governments. The philosophical differences between those who would debate the latter postulate would require them, in the final analysis, to either negate or support the propositions that taxpayers should be required to support certain social services (which it seems we should) at certain remuneration levels (which is central to the philosophical differences and the debates soon surpasses the domain of technical economics).

Table 13 compares 12-month average teacher salaries to salaries of other government positions which require at least bachelor's degree level training. Some positions may require master's degree level training but average teachers salary would also include some master's degree level training. The percentage difference column of Table 11 was developed by dividing the 12-month 1970 average teacher's salary by each of the average salaries reported for other government positions. The salary data for other government positions was given as "average minimum" and "average maximum." The latter was chosen for this analysis because minimums are normally associated with beginning salaries where average-maximums are usually associated with experienced or "exceptionally qualified" individuals (normally a person with non-government experience in the same field). The choice seems appropriate since it has been reported elsewhere[4] that the average teaching experience of American teachers in 1971 was 11 years.

Only Employment Interviewers and Social Service Workers received average salaries less than teachers and those salaries were not significantly lower. Except for Sanitarians (4.4 percent higher), all other selected positons had significantly higher average salaries than did teachers in 1970.

Summary

An attempt has been made in this first of two sections of the chapter to develop the context within which to establish the economic status of South

TABLE 13. Comparisons of Teacher Salaries to Salaries of Other Government Positions

Government Positions	12 Months Salary 1970	Percent Difference Compared to Teachers	Adj. * %
Teachers	8,846*	-0-	
Employment Interviewer	8,531	(3.6)	(15.4)
Social Service Worker	8,741	(1.2)	(13.3)
Sanitarian	9,234	4.4	(8.4)
Nutrition Consultant	11,637	31.5	15.4
Psychiatric Social Worker	11,581	30.9	14.8
Vocational Rehabilition Counselor	10,442	18.0	3.6
Public Information Officer	11,099	25.5	10.0
Average Non-Teacher	10,181	15.1	1.0

DATA SOURCE: Economic Status of the Teaching Profession, 1971-72, National Education Association Research Report 1972-R2

*Teacher's salary is computed in the same manner as that done by NEA. However, in this writer's opinion, the salary comparisons should be made on 12 months equivalent work. Therefore, teacher salaries should be increased by about 14 percent to reflect a 12 months equivalent salary. Even with this adjustment teachers salaries remain below 5 of the 8 categories. The column "adj. %" reflects percentage differences when teacher's average salary is adjusted by 14 percent.

Dakota's public elementary and secondary school teaching personnel. The attempted perspective was likened unto one viewing a set of concentric circles whereby each circle added depth of understanding as one focused upon the targeted teacher economic status.

Although the National Education Association groups South Dakota with other Plains States for purposes of educational data comparisons, this study chose to analyze South Dakota data within the context of it's bordering neighbors. Concentric comparisons were made relative to: general populations, general economic status, student populations, teacher populations and the economic status of teachers. Several conclusions may be drawn from the analysis. A few are listed here.

1. South Dakota led it's neighbors in population decline between 1960 and 1970 (-3.5 percent).

2. South Dakota has more school age population per 100 adults than does its neighbors. The 63 school age children per 100 adults (age 21-64) exceeded the National Average by 22 percent.

3. The average working adult age (ages 20-64) in South Dakota is 35.2 years.

4. Since 1970 South Dakota has exceeded the Regional Average in Per Capita Income and in Per Household Income.

5. South Dakota leads the regional states in the percent of school age children enrolled in public school programs.

6. South Dakota's largest school enrollment of racial/ethnic group children is American Indian (5 percent).

7. Except for 1971, South Dakota school enrollments have steadily declined since 1968 and have been projected to continue declining through 1974.

8. The National teacher supply exceeds the demands.

9. South Dakota's pupil-teacher ratios for both elementary and secondary schools have consistently been below the Regional Average and National Average. Further, they are within NEA's Quality Criterion measure.

10. Only 0.1 percent of South Dakota teachers are American Indian compared to 5 percent of the student population.

11. South Dakota teachers are providing educational services at income rates between 20 and 30 percent below neighboring states.

12. About one-half of South Dakota's teachers had incomes less than $6,500 in 1971 while 40 percent of all houselolds (including teachers) had incomes below that level.

13. South Dakota teachers are only marginally represented in the state's "middle income" group while teachers in all regional states, except North Dakota, are represented as expected or in "higher income" categories.

14. On a 12-month basis, the average American teacher earns sifnificantly less than other government employees with similar training and experience.

South Dakota -- Intrastate

Introduction

Data analyses were performed upon geo-political subdivisions within the state of South Dakota similar to the analyses made to compare South Dakota to it's neighboring states. Because the analyses were, for the most part, made through computer-based statistical programs, the results of those analyses will be generally reported in narrative rather than tabular form. The purpose here is the same as the previous section of the chapter; to establish the economic status of public school teaching personnel in relation to the general population.

Other analyses will be offered relative to the supply and demand for teachers within the state and a profile of South Dakota teachers will be presented. The chapter concludes with salary recommendations and proposed methods of financing those recommendations.

Economic Status

South Dakota could not be considered as one of the wealthy states. In 1969, South Dakota ranked 37th among the fifty states in Per Capita Personal Income, yet ranked 2nd in Per Capita Disposable Income as a Percent of Total Per Capita Personal Income. Disposable income is "after taxes" income: therefore, the foregoing measures seem to indicate that South Dakotans enjoy a relatively modest tax structure. However, that is not necessarily the case. South Dakota ranked 7th in state and local tax collections in 1968-69 as a percent of 1969 personal income. Almost 58 percent of that tax revenue was generated through the regressive property tax and thus ranked South Dakota as 1st among the fifty states in its use of the property tax as a revenue source.

The property tax has been under increasing pressure from both state legislatures and the courts. Several state legislatures have recently passed measures to significantly limit the use of property taxes and at the same time to substitute other, more progressive, revenue measures. Because South Dakota school districts are primarily funded from local sources (about 85 percent in 1972) and because local revenue is from the property tax, any change in the property tax provisions would necessitate that the state increase its funding level to local school districts.

TABLE 14. Increase in Effective Buying Income Per Household in South Dakota's Six Educational Planning Districts From 1966 - 1971

PLANNING REGION	1966 EBI Per Household	1971 EBI Per Household	$ Increase	Percent Increase
I	$6,149	$ 9,266	3,118	51.1
II	6,729	10,208	3,478	51.6
III	6,114	9,135	2,498	50.7
IV	6,093	9,228	3,194	51.8
V	7,052	10,261	3,209	46.0
VI	7,891	11,365	3,474	45.4
State Av.	6,671	9,910	3,161	49.4

SOURCE: Sales Management - June 10, 1967 and July 10, 1972

Due found[5] that by increasing the South Dakota sales tax by 1 percent. $15 million would be generated based upon 1969 revenue. If the sales tax were broadened to include consumer services at a 5 percent rate, an additional $7 million would be available. Thus $22 million are available to the state treasury through this one measure. The sales tax, as a revenue measure, is proportional in application and regressive at its worst. Yet, by exempting food and medicines, the sales tax moves toward being a progressive tax in its effect.

Due further reported that based on Oregon's 1969 state income tax rates, South Dakota could have generated $57 million from that source. Although Oregon state income taxes were considered to be "moderate" in 1969, South Dakota had no state income tax. North Dakota had less per capita income than did South Dakota but provided state and local governments more per capita revenue. The total revenue effort of South Dakota seems commendable. The extensive use of the property tax is not.

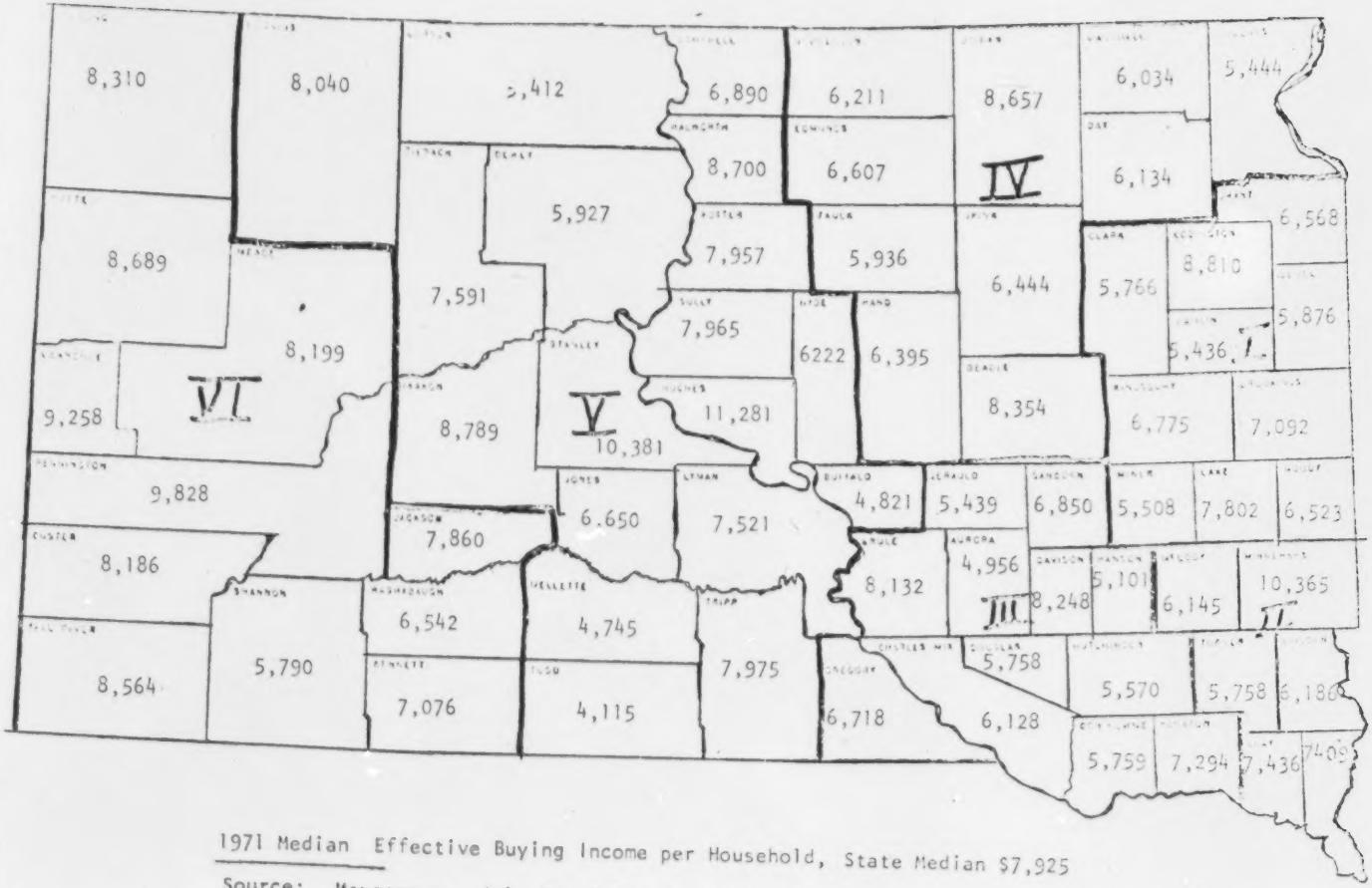
The map of South Dakota identifies the six Educational Planning Districts (EPD). The 1971 Median Effective Buying Income per Household is associated with each county. Median household income means that one-half of the households had less income and one-half of the households had more income. The state median income per household was $7,925 while each EPD's median household income was: (1) $6,616, (2) $7,217, (3) $6,329, (4) $6,622, (5) $7,232, and (6) $8,029.

The per pupil agricultural property assessed valuation was determined to be $23,044 in EPD-5, followed by $17,254 in EDP-6, $17,201 in EPD-4, $16,417 in EPD-3, $14,184 in EPD-1, and $13,587 in EPD-2. Non-agricultural property assessed valuations per pupil were found to be: $7,138 for EPD-2, $5,949 for EPD-1, $5,775 for EPD-3, $5,736 for EPD-6, $5,657 for EPD-5, and $5,034 for EPD-4. Rank ordered from high to low on all assessed property valuations per pupil establishes the relative economic ability of the EPD's to support education. That rank order is: (1) EPD-5 at $28,700, (2) EPD-6 at $22,989, (3) EPD-4 at $22,834, (4) EPD-3 at $22,192, (5) EPD-2 at $20,724, (6) EPD-1 at $20,131. The state average was found to be $23,643. Only EPD-5 was above the state average.

By weighing equally the four economic measures, agricultural property value per pupil, non-agricultural property value per pupil, total property value per pupil, and median per household income, it was determined that by weighing the rank-order positions from 1 to 6, EPD-5 and EPD-6 have equal economic strength followed by EPD-2, EPD-4, EPD-3, and EPD-1. This finding, plus the 1971 Effective Buying Income data in Table 14 substantiates for South Dakota the finding by Rossmiller and his Associates cited earlier to the effect that EBI is the most reliable and efficient wealth measure available at this time for comparative purposes.

The increases in EBI for the period 1966-71 indicate the the economic structure of the state's EPD's is rather stable. EPD-2 made the greatest relative gain while the four EPD's with the lowest economic strength made almost common advances on the two leading EPD's. Finally, an analysis was made to determine the percentages of households in each EPD by income

SOUTH DAKOTA



1971 Median Effective Buying Income per Household, State Median $7,925

Source: Management, July 10, 1972, pp. D106-108.

distribution (see Table 3). The distribution categories were then reconceptualized into three classes. The household income classes were: (1) $5,000 or less, (2) $5,001 to $15,000, and (3) $15,001 or more. The rank-order of the EPD's from wealthiest to least wealthy were almost identical to the rank-orders above on the four economic factors. The only difference in this rank-order and the combined factors was that EPD-1 had a lesser percent of the households (38 percent) with incomes below $5,000 than did EPD-3 (41 percent) and therefore the two EPD's exchanged their lowest and second lowest ordered positions. When grouped in these income categories it was found that about 50 percent of the households are in the "middle income" category. One would expect about 68 percent of the households in that category if income were distributed in a manner similar to the "normal probability curve" although South Dakota's current distribution would be similar to the national distribution.

A stepwise discriminant analysis was performed on nine educational variables plus nine economic variables. The data were aggregated on a county-unit basis and analyzed to reflect commonalities and differences between Educational Planning Districts (EPD). Based on all 18 variables, the statistical process tested for homogeneity of counties within each EPD. The analysis revealed that EPD-6 counties were most alike, closely followed by EPD-5. The other regions were found to display a lack of homogenous characteristics in the same fashion as their rank-order on income distribution. This test reinforces the previous analysis to the effect that educational characteristics (number teachers, enrollment, etc.) correlate highly with economic characteristics. This finding has been substantiated by virtually all educational-economic studies.

The rather substantial standard-deviations found for both assessed valuation on agricultural property and non-agricultural property in EPD-6 and EPD-5, plus the high incidence of homogeneity, further indicates that only a minor number of the counties in those EPD's have less economic strength than the average. Also, the standard-deviations on instructional cost per average daily membership (ADM) were from three to seven times greater than the lower economic EPD's, thus again substantiating the existance of a minor number of counties dissimilar to the average.

The within group correlation matrix revealed a higher positive correlation between instructional cost/ADM and assessed value of agricultural property than with non-agricultural property--thus reflecting the larger class of agricultural property and the importance of property value in South Dakota's educational funding. Further, negative relationships were found between instructional cost per ADM and low-income groups while a positive relationship of about equal strength was found between instructional cost per ADM and high income groups.

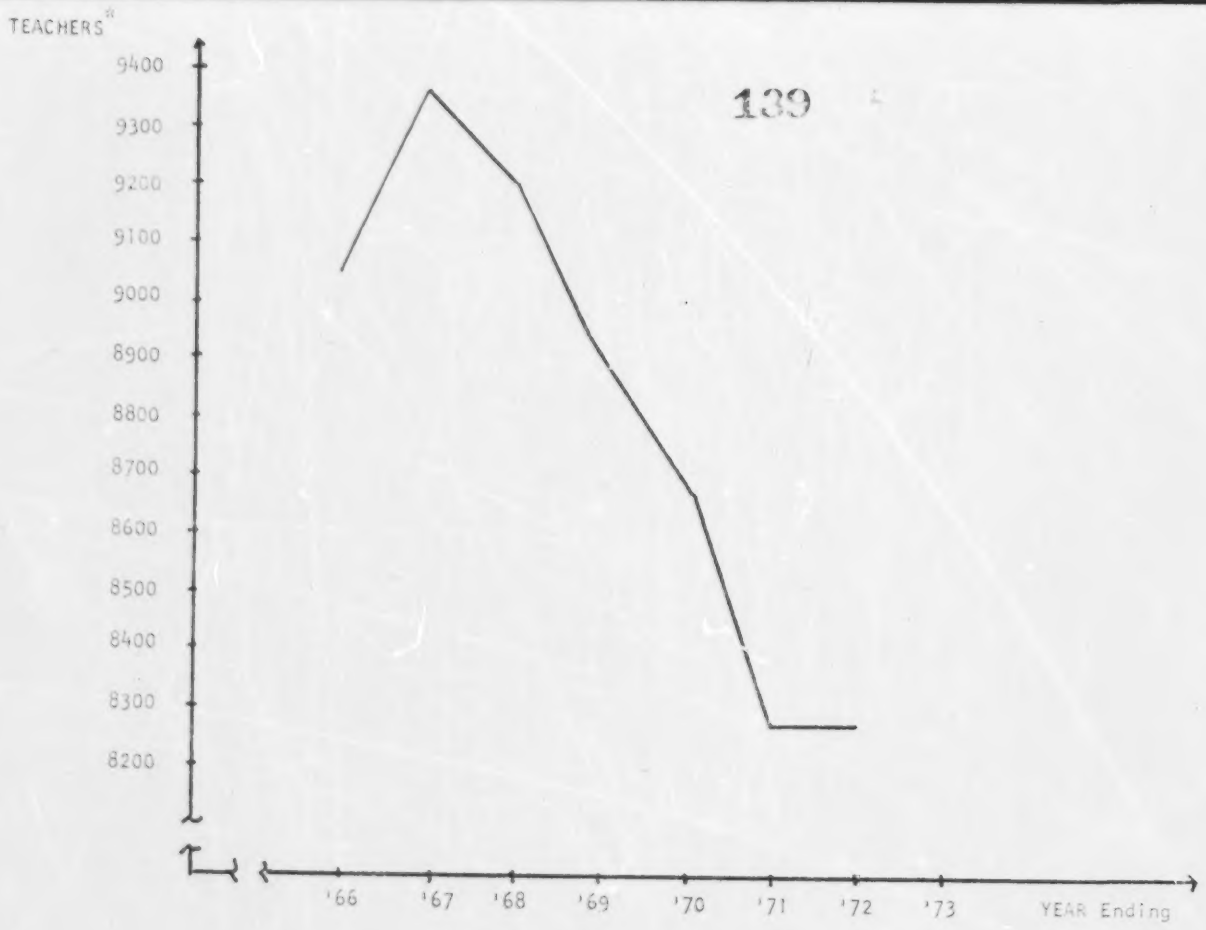


Figure 3 -- Teachers in Fulltime Public Elementary and Secondary Schools

*1966-1970 includes full-time and part-time; Source: World Almanac, 1968, 1969, 1970, 1971, 1972. 1971-1972 full-time teachers; Source: Estimates of School Statistics, NEA, 1971-R13.

Student-Teacher Populations

South Dakota's declining public school enrollment was presented in Figure 1 and the state's pupil-teacher ratios (P-TR) were compared to neighboring states in Table 6. Analysis of the elementary school P-TRs by EPD revealed variations from 19.8 pupils per teacher to 14.9 pupils per teacher. The lowest elementary school P-TRs were found to be in the wealthiest EPDs (5 and 6). The same general finding was true for secondary school P-TRs except for one notable case. EPD-6 had the highest secondary school P-TR (approximately 17.3:1). EPD-5 had the lowest (12.1:1) and the remaining EPD's had secondary school P-TRs between 13.0:1 and 14.4:1. The influence of Rapid City's high secondary pupil-teacher ratio (approximately 24.4:1) was evident in the region-six computation given the fact that the Rapid City school district employs over one-half of the EPD-6 secondary teachers. Similarly, Sioux Falls employs approximately one-third of the region-two secondary teachers yet it's approximate 21.5:1 P-TR is substantially higher than the EPD-2 average of 14.4:1.

Figure 3 graphs the number of full-time public elementary and secondary teachers for the period 1966-1972. Like the student population (see Figure 1), the number of classroom teachers increased between 1966-67 but the number has consistently declined since 1967. The rate of decline ceased rather dramatically following 1971--there was an enrollment increase in 1971--and the preliminary data for 1972-73 indicates that the number of teachers will remain about the same.

Supply-Demand for Teachers

The foregoing data clearly indicate that South Dakota is not in need of additional teaching personnel. The expansion of services to exceptional children the past few years has increased the demand for specialists in those related areas. Also, teacher-mobility to other states and retirements will create a few positions. However, South Dakota will neither require nor be in a position to employ the number of recent graduates who received teacher training at colleges within the state. Table 15 indicates that over 2,000 graduates per year since 1969 have been qualified to teach in the public elementary and secondary schools. Concomitantly, the number of teaching positions has steadily decreased during that period (see Figure 3). Obviously, many trained teachers from South Dakota colleges will not find teaching positions in South Dakota public schools. Like many states, there is an over-supply of teachers in South Dakota. Further, enrollment projections and pupil-teacher ratios indicate a decreasing demand for teachers for the next several years.

TABLE 15. Number of South Dakota College Graduates Receiving Degrees and Preparing to Teach in Elementary and Secondary Schools

Level	1960	1961	1969	1970	1971	1972
Elementary Regular	225	257	N.A.	880	946	875
Special	N.A.	N.A.	N.A.	N.A.	8	N.A.
Secondary	747	784	N.A.	1,690	1,592	1,675
Un-graded *	N.A.	N.A.	N.A.	165	166	121
TOTALS	972	1,041	2,241	2,735	2,712	2,691

DATA SOURCE: Various N.E.A. Research Bulletins

* Include Special Education, Guidance Counselors, Librarians, etc.

N.A. - Not available

Economic Status of Teachers

An inverse relationship was found to exist when teaching salaries were compared to median EBI per household by educational planning district. That is to say, teachers in the least wealthy EPD's earned more than the median household's EBI while teachers in the wealthier EPD's earned less than the median household's EBI. By selecting the counties with the highest and lowest median household EBI and comparing the average salary of teachers in school districts associated with those counties, it was determined that teachers earned less than the EPD's wealthiest county in all cases. The percentage differences ranged from 3 percent less in EPD-4 (Brown County) to 26 percent less in EPD-5 (Hughes County). The differences in this comparison were less in EPD's 1, 2, 3, and 4 than in EPD's 5 and 6, although the influence of Sioux Falls (Minnehaha County) was evident in EPD-2. For example, the median household EBI in Minnehaha County (EPD-6) is 5.5 percent greater than the median household EBI in Pennington County (EPD-6) and the mean teaching salary in Minnehaha County was found to be 6.6 percent higher than the mean teaching salary in Pennington County. Also, the average salary of Sioux Falls teachers was determined to be 7.1 percent higher than the Rapid City average salary for teachers even though both school district's faculties have average teaching experience of 11.9 years.

The average teaching salary in counties representing the EPD's least wealthy county were found to be higher than the county median household EBI except for EPD-6. The anomaly of Todd County (EPD-5), where teachers earned 204 percent above the median household, is probably best explained by the low per household EBI on the Rosebud Indian Reservation. Also,

teachers on the Reservation earn an average salary similar to teachers in Pennington County. Except for Todd County, teachers' salaries ranged from 90 percent (Custer County) to 137 percent (Roberts County) of the median EBI associated with the least wealthy counties.

The Mitchell Independent School District has the highest average teaching salary in 1972-73 at $9,326. The lowest average teaching salary among the Independent School Districts was determined to be $5,364 at Canova. The average salaries in Common School Districts run significantly below the average salaries in Independent School Districts.

The 20th Annual Salary Study prepared by the South Dakota Education Association revealed that of the 111 high school districts reporting salary schedules for 1972-73, nine districts had minimum salaries of $6,000 for B.A. training and one district reported $6,900 minimum salary for B.A. training. The median was determined to be $6,300. The highest B.A. degree salary, given training and experience, was reported to be $10,362 while the highest M.A. salary, given training and experience, was reported to be $13,860 (also the highest reported salary representing 12 years credited experience). Also, fringe benefits were reported to range from none to all of the hospital/medical insurance plus life insurance and contributions to income protection plans.

Teacher Profile

The average teaching experience in wealthier school districts is higher than in the least wealthy districts; except for the Common School Districts where experience is higher, salaries are lower and pupil-teacher ratios are lower. The wealthier districts have a median average teacher experience of 11.9 years while the less wealthy districts have a median average teacher experience of 9.2 years. The median average teaching experience of South Dakota independent school districts is about the National Average of 11 years and most of South Dakota's teachers have earned their experience in the state.

Teachers in the wealthier independent school districts are older than their counterparts in less wealthy districts. The average age of South Dakota teachers is 38.9 years which is 3.7 years older than the average working adult in the state.

The average adjusted teaching salary in South Dakota is 14.3 percent less than the median household.

Sixty-five percent of South Dakota's teachers are women (mostly elementary school) and 35 percent of the teachers are men (mostly secondary school).

FOOTNOTES

[1]See Richard A. Rossmiller, et. al., Fiscal Capacity and Educational Finance, (Madison, Wis.: National Educational Finance Project Special Study #10, 1970).

[2]See H. M. Levin, "A Cost-Effective Analysis of Teacher Selection," Economics of Education, D. Rogers and H. Richlin, eds. (N.Y.: The Free Press, 1971) p. 134 ff.

[3]T. J. Sergiovanni and R. J. Starrat, Emerging Patterns in Supervision: Human Perspective (N.Y.: McGraw-Hill, 1971).

[4]Status of the American Public School Teacher, 1970-71, (Washington, D.C.: Research Division-National Education Association, 1972-73) p. 15.

[5]John F. Due, "Alternative Tax Sources for Education," in R. L. Johns, et. al., (eds.), Economic Factors Affecting the Financing of Education, (Gainesville, Fla.: National Educational Finance Project, 1970) Chapter 10.

COST INDICES FOR EDUCATIONAL PROGRAMS IN SOUTH DAKOTA*

The idea that public schools should provide equal educational opportunity for all children has been a part of American educational thought since the writings of Thomas Jefferson. In recent years, however, there has been growing recognition that equality of educational opportunity in the United States is more myth than reality. Recent court cases have served to focus attention on the inequities which exist in many state school finance programs. Increasingly, the question "What constitutes equality of educational opportunity?" has been raised.

Some persons associate equality of educational opportunity with equality of spending. They argue that only when an equal number of dollars are spent for each child's education will equality of educational opportunity exist. Others who have examined this question maintain that equality of opportunity should be defined in terms of equal access to educational programs. They argue that the concept of equality of educational opportunity requires that each child have free access to an educational program best suited to his or her unique needs and abilities. They point out that, since educational programs should vary according to the needs of children, not all programs will be equally costly and that spending an equal number of dollars for each child's education is no guarantee of equal educational opportunity.

We agree with the latter position, i.e., that equality of educational opportunity requires that we afford each child free and equal access to an educational program designed to meet his unique needs. We note that some districts consistently spend substantially more money than other districts to educate the same number of pupils. Furthermore, the development of specialized educational programs to meet the needs of particular types of pupils calls attention to the fact that some pupils require relatively costly educational programs. Despite the obvious differences in expenditure per pupil in various types of educational programs, only recently have studies been made to identify the magnitude and nature of the cost of various educational programs tailored to meet the needs of specific types of pupils. The pioneering research conducted by the National Educational Finance Project has focused attention upon the cost variations which exist in educational programs offered by school districts.

One important reason for the lack of data concerning the relative cost of various educational programs is the limited amount of data provided by most school accounting systems. School accounting is generally done on a district-wide basis rather than on a school-by-school

---

*A study performed by Richard A. Rossmiller and Thomas H. Moran, Department of Educational Administration, University of Wisconsin-Madison.

basis and the problem is further complicated by the fact that very few school districts maintain fiscal or personnel records on an educational program basis. Consequently, it is extremely difficult to obtain data concerning expenditures for each of the programs provided by a school district. Unless more detailed expenditure and staffing information are collected systematically on a program-by-program basis, it will be difficult to provide adequate funding for special educational programs which will meet the varying needs of pupils who attend the public schools.

The primary purpose of this research was to gather and summarize information concerning the relative cost of educational programs designed for handicapped pupils in the public schools of South Dakota. Information concerning the distribution of pupils in various special educational programs for the handicapped, the relative availability of special educational programs for handicapped pupils, and the distribution of pupils in the regular educational programs also was sought.

Design of the Study

This study was initiated in January, 1973. Through correspondence with members of the staff of the South Dakota State Department of Education and a meeting with members of the staff, it was possible to identity the data which would be needed to develop program cost indices and to determine the relative availability of these data. Because of the limitations imposed by time and resources and the relatively small number of programs for the handicapped, it was impossible to obtain data for all school districts in the state. Consequently, with the assistance of the staff of the State Department of Education, a representative sample of South Dakota school districts which provide a number of special educational programs for handicapped children was identified. The following school districts were included:

1. Aberdeen
2. Beresford
3. Brookings
4. Douglas
5. Huron
6. Mitchell
7. Pierre
8. Rapid City
9. Sioux Falls
10. Todd County
11. Vermillion
12. Watertown
13. Yankton

These districts are among the largest school districts in the state. It was noted, however, that only the larger districts provided programs for several categories of handicapped children. The smaller districts tended to have programs for only one or two categories of handicapped children (or in some cases, no programs at all).

Data were obtained for the 1971-72 school year, the most recent year for which complete expenditure and staffing data were available.

These data were obtained from official school district reports on file in the State Department of Education and from publications of the State Education Department. Members of the staff of the State Department of Education provided invaluable assistance in locating the data. Among the major items of information obtained for each school district were:

1. Full-time equivalent students enrolled in each school district in the regular educational program and in special educational programs for trainable mentally retarded pupils, educable mentally retarded pupils, physically handicapped pupils, emotionally disturbed pupils, and pupils with learning disabilities;

2. the number of teachers and other instructional staff members in each program category; and

3. the distribution of current operating expenditures for each district by program category.

Since current operating expense data were not available by category or subcategory of program it was necessary to devise methods for allocating current operating expenses to program levels. One allocation distributed total current operating expenses to the elementary (K-8) and secondary (9-12) levels by computing the ratio of elementary to secondary teaching and non-teaching academic staff, which was then used to allocate instructional costs. It was necessary to assume that all other categories of expenditure--including district administration, attendance and health services, transportation, operation of plant, maintenance of plant, fixed charges and food services--applied equally to each student regardless of level. This allocation resulted in an estimate of the cost per full-time equivalent student at both the elementary and secondary levels in each school district. A similar procedure was utilized to distribute the current operating expenses for special education to each of the handicapped programs at the elementary and secondary levels.

Several cautions should be noted with regard to the method of allocation used in arriving at the cost differentials and cost indices. In the first place, the method of allocation that was used relies on the number of academic staff members rather than the current expenses for academic staff. Furthermore, the expenses involved in the allocation process included expenses not directly associated with salaries--for example, textbooks, library books, teaching supplies, contractual services and other expenses--expenses which obviously are distributed somewhat arbitrarily by using number of staff members as the basis for allocation. The method used assumed that all members of the teaching staff, whether in regular or special education programs, receive the same salary and thus is likely to understate the cost differentials slightly. Secondly, the allocation process assumed that many of the expenses--for example, those for food service, maintenance of plant,

etc.--apply equally to students in both regular and special programs. In the absence of more detailed accounting records, no alternative assumption would seem to be justified but it should be noted that this assumption probably also serves to understate the cost differentials. Finally, the allocation process resulted in an estimate of the cost per student by category and subcategory of program, and a tenuous one at that, and does not represent an accurate accounting of the actual cost per student based on detailed program-by-program accounting records. With the development of more detailed accounting systems a more accurate description of cost differentials should become possible.

Table 1 provides a summary of the various special programs for the handicapped provided by the 13 South Dakota school districts included in the sample. It should be emphasized that no assessment was made of the relative quality of the various programs. No data were available which would enable such judgments to be made. One should not assume that program quality is equal in each of the districts and a range in expenditure per pupil in these programs is to be expected. To minimize the possibility that unjustified comparisons among districts would be made, the districts were coded so that they could not easily be recognized.

At the elementary school level, special educational programs for educable mentally retarded pupils were by far the most numerous with all 13 districts reporting such programs. Only four of the 13 districts provided special educational programs for trainable mentally retarded pupils. Three districts provided special programs for emotionally disturbed pupils; and two districts provided special programs for physically handicapped pupils.

At the secondary school level, four of the 13 districts provided special programs for educable mentally retarded pupils and one district provided a special program for trainable mentally retarded pupils. Two districts reported programs for emotionally disturbed secondary school pupils and one district provided a special program for physically handicapped pupils. No programs for pupils with learning disabilities were reported at the secondary school level.

TABLE 1. Summary of Regular and Special Educational Programs in 13 South Dakota School Districts

	A	B	C	D	E	F	G	H	I	J	K	L	M	Total
Elementary K-8 Special Educational Programs														
Educable Mentally Retarded	x	x	x	x	x	x	x	x	x	x	x	x	x	13
Trainable Mentally Retarded				x	x			x			x			4
Emotionally Disturbed					x				x		x			3
Learning Disabilities										x	x			2
Physically Handicapped						x				x				2
Secondary 9-12 Special Educational Programs														
Educable Mentally Retarded					x	x	x			x				4
Trainable Mentally Retarded						x								1
Emotionally Disturbed					x						x			2
Learning Disabilities														0
Physically Handicapped											x			1
Regular Program	x	x	x	x	x	x	x	x	x	x	x	x	x	13
	A	B	C	D	E	F	G	H	I	J	K	L	M	Total

Regular Educational Programs

Table 2 provides a breakdown of the cost per full-time equivalent pupil in regular educational programs at the elementary and secondary levels in 13 South Dakota school districts. The ratio of cost per secondary pupil to cost per elementary pupil also is shown. The average expenditure per full-time equivalent elementary pupil was $697 and the average expenditure per full-time equivalent secondary pupil was $781. Thus, on the average, secondary school programs were 13 percent more costly than elementary school programs in these districts.

District B had the highest expenditure per pupil at both the elementary and secondary level with expenditures of $1,059 per pupil and $1,163 per pupil, respectively. District I had the lowest expenditure per full-time elementary pupil--$566. The lowest expenditure per full-time equivalent secondary pupil was $603 in District E. The highest cost ratio between secondary and elementary programs was in District I (1.33) and the lowest cost ratio was in District A (0.88). District A spent 12 percent less on each secondary school pupil than it spent on each elementary school pupil.

TABLE 2. Cost Per Full-time Equivalent Pupil for Regular Educational Programs in 13 South Dakota School Districts

District	Elementary	Secondary	Secondary/Elementary
A	$ 874	$ 767	0.88
B	1,059	1,163	1.10
C	623	671	1.08
D	657	729	1.11
E	629	603	0.96
F	659	676	1.03
G	765	925	1.21
H	650	1,061	1.63
I	566	754	1.33
J	655	743	1.13
K	658	675	1.03
L	647	680	1.05
M	624	711	1.14
High	B	B	I
Low	I	E	A
Mean	697	781	1.13

Enrollment in Regular and Special Educational Programs

Most authorities agree that between 10 and 12 percent of the pupils in public schools have physical, mental, or emotional handicaps which are sufficiently severe for them to benefit from participation in some type of special educational program. Table 3 shows the percentage distribution of full-time equivalent elementary and secondary pupils in regular and special educational programs in the South Dakota school districts included in this study. The 13 school districts enrolled 65,605 pupils in grades K through 12, with 45,080 pupils enrolled in elementary schools and 20,525 pupils enrolled in secondary schools. Only 750 pupils (1.66 percent) were enrolled in special educational programs at the elementary school level. Most of these pupils--1.26 percent--were enrolled in programs for the educable mentally retarded and another 0.18 percent were enrolled in programs for the trainable mentally retarded.

At the secondary school level, only 156 pupils (0.76 percent) were enrolled in special educational programs. Again, the majority were in

programs for educable mentally retarded pupils and trainable mentally retarded pupils.

Because the number of pupils served in special educational programs for the handicapped in these districts is so small when compared with national estimates, one must conclude that many pupils who could benefit from such programs are not currently being served. This conclusion is further buttressed by data contained in the publication Education: South Dakota published by the Bureau of Field Studies and Surveys of the University of Missesota in 1969. Table 4 is reproduced from the above report and indicates that only 16 percent of the handicapped children in South Dakota were being served in special educational programs during the 1968-69 school year. It seems clear from the data presented in Tables 3 and 4 that South Dakota has a large number of handicapped children who are not currently being provided access to special educational programs tailored to fit their needs.

TABLE 3. Percentage Distribution of Full-time Equivalent Elementary and Secondary Pupils by Educational Program in 13 South Dakota School Districts

	Elementary		Secondary	
	Number	Percent	Number	Percent
Regular Program	44,330	98.34	20,369	99.24
Special Educational Programs	750	1.66	156	0.76
Educable Mentally Retarded	569	1.26	117	0.57
Trainable Mentally Retarded	81	0.18	12	0.05
Emotionally Disturbed	44	0.10	24	0.12
Learning Disabilities	41	0.09	0	0.00
Physically Handicapped	15	0.03	3	0.02
Total	45,080	100.00	20,525	100.00

Special Education Programs for the Handicapped in Elementary Schools

Each of the districts included in the sample provided one or more special education programs for the handicapped at the elementary school level. Table 5 provides an overview of the average cost of all special education programs at the elementary school level. The most costly programs were provided in District A where the cost per pupil was $2,568. In contrast, the lowest cost programs were in District I with a cost per pupil of $937. The highest cost index was found in District F where the average cost of special education programs was 3.54 times

TABLE 4. Rate of Educational Service for Handicapped Children in South Dakota During the 1968-69 School Year

Type of Handicap	Estimated Incidence		Total Served	
	Number**	Percent***	Number#	Percent
Educable Mentally Retarded	3,340	2.0	984	29.0
Trainable Mentally Retarded	501	0.3	153	33.0
Emotionally Disturbed/Socially Maladjusted	3,340	2.0	25	7.0
Special Learning Disabilities	5,010	3.0	0	0.0
Speech Impaired	5,845	3.5	2,100	36.0
Physically Handicapped (including Multiply Handicapped)	3,340	2.0	240	7.0
Visually Impaired	150	0.1	50	33.0
Hearing Impaired	1,002	0.6	124	12.0
Total	22,528	13.5	3,689	16.0

*Education: South Dakota, Bureau of Field Studies and Surveys, College of Education, University of Minnesota, 1969.

**Based on a September, 1968, K through 12 enrollment figure of 167, 381 (167,000 was used to estimate number of pupils).

***U.S. Office of Education projections, reported in L. M. Dunn, Exceptional Children in the Schools (New York: Holt, Rinehart, and Winston, 1963).

#Numbers include the approximate number of children served in state-supported programs through supplemental tutoring as well as those enrolled at the state residential schools for the blind, deaf and orthopedically handicapped.

---

greater than the cost of the regular education program. In District J, on the other hand, the average cost of the special education programs were only 1.43 times as costly as the regular education program.

The average cost of all special education programs for the total sample of 13 districts was $1,777 per pupil and the average cost of all regular programs was $697 per pupil. These two figures yield a cost index of 2.55, indicating that the average cost of all elementary school special education programs was 2.55 times greater than the cost of the average regular education program in the elementary schools in these 13 districts.

TABLE 5. Average Cost Per Full-time Equivalent Pupil in All Elementary Special Education Programs

District	Special Program Cost Per Pupil	Regular Program Cost Per Pupil	Cost Differential (1-2)	Cost Index (1/2)
A	$2,568	$ 874	$1,694	2.94
B	1,520	1,059	461	1.44
C	1,509	623	886	2.42
D	1,699	657	1,042	2.59
E	1,466	629	837	2.33
F	2,333	659	1,674	3.54
G	2,363	765	1,598	3.09
H	1,880	650	1,230	2.89
I	937	566	371	1.66
J	939	655	284	1.43
K	1,835	658	1,177	2.79
L	1,942	647	1,295	3.00
M	2,112	624	1,488	3.38
High	A	B		F
Low	I	I		J
Mean	1,777	697	1,080	2.55

Programs for Educable Mentally Retarded Pupils

All 13 of the d stricts included in the sample provided special elementary school programs for educable mentally retarded pupils. The cost per pupil for each of these programs and the cost index relative to the cost of the regular program are shown in Table 6. District A, the highest spending district, spent $2,568 per pupil in its program for the educable mentally retarded compared to $874 per pupil in its regular program. The lowest spending district, District I, spent only $693 per pupil in its program for educable mentally retarded pupils compared with $566 per pupil in its regular program. The special program for educable mentally retarded pupils in District A obviously must be substantially different than the program provided in District I. Our data did not permit an analysis of the specific factors which contributed to the cost of each program. One must assume, however, that the program in District A is of a different nature than the program in District I.

The average cost per pupil in programs for the educable mentally retarded was $1,691 compared with an average regular program cost of

$697 per pupil. The average cost index was 2.43. That is, on the average, districts were spending 2.43 times as much per pupil in special programs for the educable mentally retarded as they were per pupil in the regular programs. The highest cost index (3.38) was found in District M and the lowest cost index (1.22) was found in District I.

TABLE 6. Cost Per Full-time Equivalent Pupil in Elementary Special Education Programs for the Educable Mentally Retarded

District	Special Program Cost Per Pupil	Regular Program Cost Per Pupil	Cost Differential (1-2)	Cost Index (1/2)
A	$2,568	$ 874	$1,694	2.94
B	1,520	1,059	461	1.44
C	1,510	623	887	2.42
D	1,499	657	842	2.28
E	1,244	629	615	1.98
F	2,162	659	1,503	3.28
G	2,363	765	1,598	3.09
H	1,528	650	878	2.35
I	693	566	127	1.22
J	1,009	655	354	1.54
K	1,837	658	1,179	2.79
L	1,942	647	1,295	3.00
M	2,112	624	1,488	3.38
High	A	B		M
Low	I	I		I
Mean	1,691	697	904	2.43

Programs for Trainable Mentally Handicapped Pupils

Four of the 13 districts provided special elementary school programs for trainable mentally retarded pupils. Table 7 provides information on the cost of these programs. The highest cost program was in District H, which was spending $2,445 per pupil compared with $650 per pupil in its regular program. The lowest cost program was in District K where spending in the special program was at the rate of $1,006 per pupil compared with $658 per pupil in the regular program. The highest and lowest cost indices were also in District H and K with 3.76 and 1.53, respectively. As was true of programs for the educable mentally retarded, it seems clear that the programs provided in Districts D and H are of a

substantially different nature than the programs provided in District K. The question of whether or not the quality of these programs is substantially different cannot be answered from the data available in this study.

The average cost of programs for trainable mentally retarded pupils in these four districts was $1,890 per pupil. The average cost of the regular program in these districts was $648 per pupil. The cost differential, $1,242, yielded a cost index of 2.92. That is, the average program for trainable mentally retarded pupils was 2.92 times as costly as the average program for regular pupils.

TABLE 7. Cost Per Full-time Equivalent Pupil in Elementary Special Education Programs for the Trainable Mentally Retarded

District	Special Program Cost Per Pupil	Regular Program Cost Per Pupil	Cost Differential (1-2)	Cost Index (1/2)
D	$2,401	$657	$1,744	3.65
E	1,708	629	1,079	2.72
H	2,445	650	1,795	3.76
K	1,006	658	348	1.53
Mean	1,890	648	1,242	2.92

Programs for Emotionally Disturbed Pupils

Three districts provided special educational programs for emotionally disturbed pupils in their elementary schools. Data concerning the cost of these programs are presented in Table 8. Expenditure per pupil in the program varied from a low of $1,041 per pupil in District I to a high of $2,713 per pupil in District K. The lowest cost index was 1.84 in District I; the highest cost index was 4.12 in District K.

The average expenditure per pupil in these programs was $2,078 compared with an average experditure per pupil in the regular program of $618. The average cost index was 3.36, i.e., on the average, programs for emotionally disturbed pupils were 3.36 times more costly than programs for regular pupils.

Again, the wide difference in expenditure per pupil between the highest and lowest cost programs should be noted. It is obvious that there must be substantial differences between these programs but the data did not permit identification of the specific factors which contributed most to the special program cost.

TABLE 8. Cost Per Full-time Equivalent Pupil in Elementary Special Education Programs for the Emotionally Disturbed

District	Special Program Cost Per Pupil	Regular Program Cost Per Pupil	Cost Differential (1-2)	Cost Index (1/2)
E	$2,480	$629	$1,851	3.94
I	1,041	566	475	1.84
K	2,713	658	2,055	4.12
Mean	2,078	618	1,460	3.36

Programs for Pupils with Learning Disabilities

As shown in Table 9, only two districts provided elementary school programs for pupils with learning disabilities. In District J, the cost per pupil in the special program was $584 compared with a cost per pupil of $655 in the regular program. Thus, District J was actually spending less per pupil in the special program than it was spending per pupil in the regular program.

The cost of the special program for pupils with learning disabilities in District K, on the other hand, was $2,653 per pupil compared with an expenditure of $658 per pupil in the district's regular program. The cost index for this program was 4.03, compared with a cost index of 0.89 in District J.

Although an average program cost is shown in Table 9, the average cost in this instance has little meaning since the programs provided by the two districts are obviously dissimilar. It is likely that the program in District J provides some special part-time instructional assistance for pupils with mild learning disabilities, while the program in District K probably involves children who have severe learning disabilities and who need close personal assistance on a one-to-one basis. This situation highlights the need for much more specific information concerning the nature of the pupils in the program, the objectives of the program, and the configuration of resources being utilized in the program before judgments can be made concerning the applicability of an average cost index. It also illustrates the great amount of variability in educational programs designed for pupils whose learning disabilities may vary from mild to severe.

Programs for Physically Handicapped Pupils

Table 10 provides data concerning the cost of special elementary school programs for physically handicapped pupils. Only two districts

TABLE 9. Cost Per Full-time Equivalent Pupil in Elementary Special Education Programs for Pupils with Learning Disabilities

District	Special Program Cost Per Pupil	Regular Program Cost Per Pupil	Cost Differential (1-2)	Cost Index (1/2)
J	$ 584	$655	$ (71)	0.89
K	2,653	658	1,995	4.03
Mean	1,618	656	962	2.47

provided such programs and the cost of the two programs again varied widely. District J spent $1,364 per pupil in its program for the physically handicapped compared with an expenditure of $655 per pupil in its regular program. The resulting cost index was 2.08.

District F spent $3,811 per pupil in its program for the physically handicapped compared with an expenditure of $659 per pupil in the regular program. The associated cost index was 5.78.

These two programs must be quite dissimilar, since the difference in spending was over $2,400 per pupil. With this large a difference in program cost, the average program cost shown in Table 10 has little meaning. As noted above, much more information is needed concerning the specific nature of the program, the specific handicaps of pupils involved in the program, and the configuration of resources being applied in the program before judgments concerning an appropriate average cost index can be reached.

TABLE 10. Cost Per Full-time Equivalent Pupil in Elementary Special Education Programs for the Physically Handicapped

District	Special Program Cost Per Pupil	Regular Program Cost Per Pupil	Cost Differential (1-2)	Cost Index (1/2)
F	$3,811	$659	$3,152	5.78
J	1,364	655	709	2.08
Mean	2,587	657	1,930	3.94

Special Education Programs for the Handicapped in Secondary Schools

Five of the 13 districts included in the sample provided one or more special education programs for handicapped pupils at the secondary school level. Table 11 summarizes the average cost of all secondary special education programs in each of the five districts. District K had the highest average cost with an expenditure of $3,248 per pupil in special programs compared with an expenditure of $675 per pupil in its regular program. The lowest cost special programs were in District F with an average cost per pupil of $1,029 compared with an average cost per pupil of $676 in the regular program. The associated cost indices in District K and District F were 4.81 and 1.52, respectively.

The average expenditure per pupil in all special programs in the five districts was $1,746. This compares with an average regular program cost of $724 per pupil. The average cost index for all special programs was 2.41. That is, the average cost per secondary school pupil in all special programs in these five districts was 2.41 times greater than the average cost per pupil in the regular educational program.

TABLE 11. Average Cost Per Full-time Equivalent Pupil in All Secondary School Special Education Programs for the Handicapped in Five South Dakota School Districts

District	Special Program Cost Per Pupil	Regular Program Cost Per Pupil	Cost Differential (1-2)	Cost Index (1/2)
E	$1,581	$603	$ 978	2.62
F	1,029	676	353	1.52
G	1,584	925	659	1.71
J	1,291	743	548	1.74
K	3,248	675	2,573	4.81
High	K	G		K
Low	F	E		F
Mean	1,746	724	1,022	2.41

Programs for Educable Mentally Retarded Pupils

Four of the 13 districts included in the sample provided special educational programs for educable mentally retarded pupils at the secondary school level. As shown in Table 12, the highest cost program,

$1,584 per pupil, was in District G and the lowest cost program, $856 per pupil, was in District F. Cost indices varied from a high of 2.25 in District E to a low of 1.27 in District F.

The average cost for all four programs was $1,271 per pupil compared with an average cost per pupil in the regular program of $737. The average cost ratio for all four programs was 1.72, indicating that the average expenditure per pupil in programs for educable mentally retarded secondary school pupils was 1.72 times greater than the average expenditure per pupil in the regular secondary school program.

TABLE 12. Cost Per Full-time Equivalent Pupil in Secondary Special Education Programs for the Educable Mentally Retarded

District	Special Program Cost Per Pupil	Regular Program Cost Per Pupil	Cost Differential (1-2)	Cost Index (1/2)
E	$1,354	$603	$751	2.25
F	856	676	180	1.27
G	1,584	925	659	1.71
J	1,291	743	548	1.74
Mean	1,271	737	534	1.72

Programs for Trainable Mentally Retarded Pupils

Only one district, District F, provided a special secondary school program for trainable mentally retarded pupils. The cost per pupil in this program was $1,144 compared to a cost per pupil in the regular program of $676. The resulting cost index was 1.69. The fact that only one of the 13 districts provided a special secondary school program for trainable mentally retarded pupils indicates that South Dakota is not providing adequately for the needs of such pupils. Since these 13 districts included the largest districts in the state, one would expect to find more than one district providing such a program if the needs of such pupils were being met adequately.

Programs for Emotionally Disturbed Pupils

Two of the 13 districts provided special secondary school programs for emotionally disturbed pupils. Data concerning the cost of these programs are shown in Table 13. The cost per pupil in District E was $3,036 while the cost per pupil in District K was $2,030. These figures

compare with $603 per pupil and $675 per pupil, respectively, in the regular programs of these districts. The cost index in District E was 5.03 and the cost index in District K was 3.01. The average cost per pupil in their regular programs was $639. The cost index for the average cost of the two programs was 3.96.

TABLE 13. Cost Per Full-time Equivalent Pupil in Secondary Special Education Programs for Emotionally Disturbed Pupils

District	Special Program Cost Per Pupil	Regular Program Cost Per Pupil	Cost Differential (1-2)	Cost Index (1/2)
E	$3,036	$603	$2,433	5.03
K	2,030	675	1,355	3.01
Mean	2,533	639	1,894	3.96

Programs for Physically Handicapped Pupils

Only one district, District K, provided a program for secondary school pupils who were physically handicapped. This was a very costly program with a cost per pupil of $8,121 compared to a cost per pupil in the regular program of $675. This produced a cost index of 12.04. Reference to Table 3 indicates that only three pupils were served in this program and thus, on a per pupil basis, it can be expected to be very costly.

Comparison of South Dakota Cost Indices with Cost Indices from Other Studies

In view of the limited number of school districts involved in the South Dakota sample, and the limited number of special educational programs for handicapped children provided by these 13 districts, it may be helpful to compare the cost indices obtained in this study with cost indices obtained in similar studies in other states. It must be cautioned, however, that cost indices are not perfectly comparable from state to state. Requirements for classification in the various special program categories vary from one state to another, as do requirements for teacher certification, teacher/pupil ratios and similar factors which are likely to influence the cost of a given program. These comparative data should, however, prove helpful to educators and legislators as they examine South Dakota's current provisions for financing programs for handicapped children.

The first column in Table 14 (headed NEFP), lists the cost indices obtained in the research conducted for the National Educational Finance Project. These indices were computed on the base cost of the regular educational program in grades 1 through 12 and make no differentiation between elementary and secondary school programs. The indices for Kentucky and Delaware were obtained from studies conducted in each of those states using essentially the same techniques and procedures as were used in the South Dakota study. The sample used in the Kentucky study included 28 school districts while the Delaware study included all school districts in Delaware. The indices reported for Indiana are based on data obtained from 11 schools in three Indiana school districts. The data reported for Texas were obtained from a study conducted for Texas by the staff of the National Educational Finance Project. The study did not deal with each program in detail; hence data are reported only for all elementary and all secondary school programs with the exception of the program for speech handicapped.

It will be noted that the cost index for elementary school programs for the handicapped in South Dakota is the highest of those reported. The same is true of the secondary school cost index for South Dakota. The cost indices for individual programs also tend to be among the highest reported in any of the studies to date. The data which were available did not enable us to identify the cost factors which produced the relatively high cost index for special education programs in South Dakota. It must be recognized that, with the exception of programs for educable mentally retarded pupils, relatively few special education programs were found in the 13 South Dakota districts included in this study. In some cases only a handful of pupils were enrolled in such programs and this may help account for their relatively high cost per pupil. Also, these South Dakota districts seem to have only "scratched the surface" in meeting the educational needs of handicapped children and it is likely that the unit cost of the programs will decrease as more experience is gained and as more pupils are enrolled.

The small size of the sample and the limited number of special educational programs provided by the districts included in the sample make any generalizations hazardous. From the data presented, however, we tentatively conclude that South Dakota has done relatively little to provide special educational programs for handicapped pupils other than those who are classified as educable mentally retarded. In school districts which do provide special educational programs for the handicapped, the cost of the program tends to be relatively high, at least when compared with similar data from other states. We urge that educators and legislators in South Dakota give greater attention to the special educational needs of handicapped children and encourage the development of programs which will meet these needs. This will require action at the state level.

TABLE 14. Summary and Comparison of South Dakota Cost Indices and Those Obtained in Other Studies

Program \ Study	NEFP*	Kentucky**	Delaware**	Indiana	Texas	South Dakota
Elementary Programs		1.76	1.71	1.48	2.21	2.55
Gifted	1.13	1.88	--	--	--	--
Educable Mentally Retarded	1.92	1.68	1.49	2.03	--	2.43
Trainable Mentally Retarded	2.20	1.73	1.67	2.04	--	2.92
Learning Disabilities	2.50	1.52	2.29	1.50	--	2.47
Emotionally Disturbed	3.70	1.60	1.92	--	--	3.36
Speech Handicapped	1.25	1.62	--	1.22	1.36	--
Blind	3.48	--	1.83	--*	--	--
Partially Sighted	3.48	1.79	1.83	--	--	--
Deaf	3.15	1.65	3.03	1.55	--	--
Hard of Hearing	3.15	1.62	3.03	--	--	--
Orthopedically Handicapped	3.26	1.54	1.76	4.18	--	3.94
Multiple Handicapped	2.80	1.65	--	--	--	--
Secondary Programs		1.80	1.51	--	2.29	2.41
Gifted	1.13	1.49	--	--	--	--
Educable Mentally Retarded	1.92	1.49	1.35	--	--	1.72
Trainable Mentally Retarded	2.20	1.48	1.24	--	--	1.69
Learning Disabilities	2.50	--	2.24	--	--	--
Emotionally Disturbed	3.70	1.35	1.95	--	--	3.96
Speech Handicapped	1.25	1.91	--	--	1.29	--
Blind	3.48	--	2.48	--	--	--
Partially Sighted	3.48	1.70	2.48	--	--	--
Deaf	3.15	1.22	3.05	--	--	--
Hard of Hearing	3.15	1.25	3.05	--	--	--
Orthopedically Handicapped	3.26	--	1.29	--	--	12.04
Multiple Handicapped	2.80	--	--	--	--	--
Occupational Programs	1.80	1.55	1.60	--	--	--
Preschool Programs						
Kindergarten	1.30	1.05	--	1.03	1.05	--

*Elementary and secondary levels were not distinguished; the base cost was 1-12 inclusive.

**Base cost for the secondary special programs was the secondary regular program

SCHOOL DISTRICT REORGANIZATION*

In the last four decades the number of school districts has decreased from 127,531 to 16,920. This striking reduction did not just happen. The significant reasons for such reorganization of school districts tended to focus on the following:

1. A sufficiently large enrollment base so that broader programs might be realized to better satisfy pupil needs.

2. Larger administrative units would broaden the tax base so that the extreme disparities might be minimized; it would also better accommodate shifts in population and wealth.

3. Professional as well as non-instructional personnel could be utilized more efficiently and effectively.

All that has been said and written regarding school district reorganization tends inevitably to focus on the need to provide educational benefits, economic benefits, and efficiency of operation. A number of conditions prompted citizens and eventually legislators to respond to these three concerns. Such factors as improved roads and communication tended to develop greater cohesiveness in states like South Dakota where sparsity contributed to isolation; the fact that a considerable number of young people were leaving the state prompted some hard questions about educational as well as vocational opportunities; in states where the principal source of income and opportunity was related to agriculture it became evident that consolidation of land areas, made possible through mechanization and technological developments, resulted in the need for less manpower yet better preparation for those who were engaged in agriculture. It has become obvious that sheer manpower will not suffice. Rather, it calls for a level of educational opportunity and intensity heretofore unnecessary.

As the percentage of post-secondary entrants increased it prompted many to equate the public school programs with successful entrance and completion of post-secondary school opportunities. Needless to say, many were found wanting.

Many citizens, although not sophisticated in the intricacies of financing schools, became aware of extreme disparities within and among districts in the ability and effort to support schools; many argued that the inequity of "tax islands" which were permitted to be sustained was not defensible; there was a growing recognition of state responsibility in financing of schools; and some of the myths surrounding the concept of local control as a viable argument in resisting district organization were beginning to lose their credibility. These

---

*A study performed by Dean F. Berkley, Department of Educational Administration, Indiana University.

were illustrative of the many factors prompting states to respond through legislative action. Typically, legislative bodies did so in three ways:

1. Mandated reorganization by statute.

2. Required counties of geographical units to study needs, suggest plans and permit voter approval or disapproval.

3. Encouraged reorganization, but left subsequent action on a permissive basis to the districts involved.

In a few cases mandated action has been taken. Where reorganization has been left on a permissive basis, not much has transpired - unless, of course, there were external incentives applied. In most cases, and particularly true in the plains states, certain criteria have been established and a plan of action required with resolution of same left up to the citizens through the means of referendum.

Criteria for reorganization have typically included the following:

1. A minimum enrollment in the district which can respond to pupil needs and adequacy of programming. Various studies have suggested minimum enrollments ranging from 1,200 to 20,000 pupils. In recent years the suggested minimum enrollment has repeatedly been 10,000 pupils. In the 1950's Conant suggested a minimum of 1,500 pupils and, although such a suggestion was unacceptable to many at the time, it is now evident that a district of 1,500 - 2,000 pupils has considerable difficulty responding to current or projected program needs of students. In fact, small schools may actually deter the attainment of equitable educational opportunities. Obviously, states with sparsity of population, geographical barriers, or inadequate road conditions may not be able to meet such minimum enrollments and will necessarily have to look for alternatives to make possible what sheer numbers are unable to provide. Needless to say, this criterion should be viewed in terms of the necessary pupil population for program needs and not in terms of a criterion to meet a specific minimum number.

2. A sufficient tax base and/or geographic area to support the schools. This standard will vary considerably among and within states, but some standard must be applied to assure the ability to support schools and to minimize inequities among districts.

3. The administrative unit should include grades K-12 and be administered by a single board. It is rarely defensible to permit the continuance of separate elementary or high school districts. The reasons for their existence tend to be based on highly localized arguments which ignore educational needs. Such matters as curriculum articulation, effective utilization of staff, provisions for special needs, program coordination and more efficient use of facilities and funds tend to substantially favor unified districts. Of all the criteria advanced for effective school districts, this is the one most universally accepted.

An Overview

Not unlike other plains states, South Dakota has historically supported a large number of school districts. Likewise, several factors have contributed to the reduction in the number of school districts in recent years. For many years the common schools served a useful function in rural America,but their decline has been dramatic in recent years. Such factors as improved transportation, growing importance of secondary education, decreasing population in rural areas, and the felt need for broadened educational opportunities have exerted influences resulting in decreasing the number of school districts.

With few exceptions, the school districts in South Dakota are of two types. They are the Independent District which provides a twelve-year school program; and the Common District which provides less than a twelve-year school program and typically a program for grades (K)1-8.

Certain conditions and special relationships exist which create atypical districts. For instance, there are cases where a high school district is superimposed over a number of common school districts; provisions are made for contractual arrangements with local districts and the Bureau of Indian Affairs; and contracting with districts in an adjoining state to accommodate transfer pupils at the elementary and/or high school levels.*

Table 1 reveals the dramatic decrease in the number of school districts in recent years. From 1931, at which time there was an all time high of 3,449 districts, until the early 1960's little decrease was noted.

It became evident in 1951 and again in 1955 that the legislature was beginning to take seriously the factors prompting reorganization of school districts. The legislative action to create county boards and to review plans for district organization in terms of minimum standards precipitated modest activity throughout the state. The 1967 legislature increased such activity with the passage of Senate Bill 130. Its provisions were essentially twofold. First, that all land area in the state be a part of an independent school district by July 1,1970. Second, a state commission be created with the authority to reorganize any land area not yet a part of an approved independent district. The effective date of SB130 was delayed by legal action initiated by the South Dakota Stock Growers Association,but the intentions were clear

---

*It should be noted that many tables in this study provide data based on 177 of the 195 Independent Districts in South Dakota. In such cases the following have been omitted due to the atypical nature of the district: Bennett County High School, Big Stone City (5), Big Stone City (10), Browns Valley, Douglas, Eagle Butte, Elk Mountain, Greater Scott, Hendricks, Hermanson, Hoven High School, Hoyt, Northwest, Smee, Stanley County High School, Sully Superimposed High School, Todd County, and Wachter.

and many counties proceeded to develop proposals for reorganization of school districts. The electorate supported the passage of SB130 in November, 1968 and a marked decrease in the number of districts has transpired since that time.

TABLE 1. Number of School Districts in South Dakota, 1955-56 Through 1972-73

Year	Independent	Common Operating	Non-Operating Common	Total
1955-56	270	3,205	*	3,295
1956-57	267	3,026	*	3,293
1957-58	261	2,978	*	3,239
1958-59	258	2,908	*	3,166
1959-60	255	1,821	944	3,070
1960-61	252	1,703	1,057	3,012
1961-62	250	1,610	1,121	2,981
1962-63	245	1,525	1,156	2,926
1963-64	244	1,439	1,190	2,873
1964-65	240	1,362	1,006	2,608
1965-66	235	1,229	867	2,331
1966-67	225	1,094	695	2,014
1967-68	215	972	610	1,797
1968-69	216	831	156	1,203
1969-70	206	559	*	765
1970-71	201	69	17	287
1971-72	195	33	5	233
1972-73	195	32	4	231

SOURCE: Statistical Services Section, South Dakota State Department of Public Instruction

* Figures not available.

The 1973 legislature repealed much of the previous legislation and set fourth in one act (HB793) matters relating to school district reorganization. The essential features included the following:

1. Elimination of the state commission, and vesting the power to establish standards for and implementation of reorganization in the State Board of Education.

2. The 1973 legislation also responded to the following minimum standards and commitments:

a. That districts should be reorganized in order to offer a program of sufficient scope and quality to accommodate the inequities in the ability to finance same;

b. That all districts must meet current minimum accreditation requirements;

c. That all proposed districts must have sufficient assessed valuation to enable the newly created district to rank above the 15th percentile of all existing districts in terms of assessed valuation per resident child;

d. That additional superimposed high school districts not be permitted;

e. That presently operating school districts be eliminated only on the initiative of the resident voters.

f. That a plan be used in the creation of new districts in response to a desire for consolidation or boundary changes on the part of one or mose districts.

Some Factors to Consider

If there is credence in the objective of realizing educational and economic benefits with resultant efficiencies, it suggests calling attention to several of the factors which relate to the satisfaction of those objectives.

In 1970 the State Board of Education instituted a program of accreditation on a K-12 basis. Accreditation provides for three levels as follows: Accredited Level I Exemplary; Accredited Level I; Accredited Level II. Classification is based essentially on an annual quantitative review of the educational program, staff, instructional materials, facilities and services. Details regarding each level of accreditation are found in Standards Bulletin 99, State Department of Public Instruction, 1970. Assuming that the present system of accreditation is the best information available regarding meaningful differentiations between school systems, the relationships of these accreditation levels to the following factors may provide some clues regarding how well school districts are responding to the objectives cited above.

Accreditation Levels and Enrollment

The literature repeatedly indicates a relationship between adequacy of program and number of pupils in attendance. One recent study of school district organization which focused on four states, including South Dakota,

had this to say about size:[1]

The following assumptions concerning the factor of size are accepted for this Report as a basis for planning a state system of school district organization:

1. Size, in and of itself, is not necessarily important. Size acquires relevance in relation to many related factors.

2. Size, in and of itself, will not provide quality education. It must be related to the objectives upon which a state school system organization is based.

3. Size is an important factor to consider when a state undertakes the task of organizing its school districts into units which will make possible the attainment of the educational results the citizenry expects in return for its investment in public education.

4. Size becomes significant when related to the tasks for which numbers are important to meet educational objectives adequately, efficiently and economically.

5. School districts can be both too small and too big.

6. There is a significant relationship (as reported in related research studies) between size and:

a. Per-pupil costs

b. Pupil achievement

c. Program breadth and quality

d. Teacher preparation and certification

e. Supporting educational services

f. Educational leadership

Table 2 tends to corroborate the fact that in South Dakota the smaller the number of pupils the less chance of meeting the minimum standards for the highest level of accreditation.

The median size of the independent districts in South Dakota is approximately 450 pupils. Less than 3 percent of the schools below the median enrollment were classified at the IE level of accreditation. There were 56 districts with Level II accreditation and 53 of those districts enrolled less than 500 pupils. Of the 29 districts with enrollments of 1,000 or more none were accredited at Level II, 6 were at Level I, and 23 at level IE. Perhaps coincidental, but an interesting geometric relationship between accreditation level and enrollment is

also found in the data. The median enrollment for districts with Level II accreditation was 250; for Level I it was 500; and for Level IE it was 1,000.

TABLE 2. Accreditation Levels of Independent Districts Grouped by Size of Enrollment, 1971-72

Enrollment	Districts Level IE	Districts Level I	Districts Level II	Total Districts
0 - 249	1	5	32	38
250 - 499	4	34	21	59
500 - 749	8	25	2	35
750 - 999	10	5	1	16
1,000 - 1,249	6	3	0	9
1,250 - 2,499	7	2	0	9
2,500 - 6,499	8	1	0	9
6,500 - 13,999	0	0	0	0
14,000 and above	2	0	0	2
TOTALS	46	75	56	177

Another indicator of quality at the high school level is membership in the North Central Association. Table 3 reveals that for schools to meet the minimum qualitative standards for North Central accreditation in South Dakota the odds favor those schools with an enrollment of 300 or more. The median enrollment for the 193 public high schools (9-12) was 150 pupils. In fact, 82.6 percent of the high schools enrolled 300 pupils or less. There were 67 public high schools accredited by the North Central Association in 1972-73. The median enrollment for those schools was 300 pupils.

A clear relationship may be observed between enrollment and the qualitative and/or quantitative levels of accreditation granted schools and school districts.

Accreditation Levels: Finance and Enrollment Relationships

A commonly accepted criterion in judging the adequacy of a school district is the prudential expenditure of the tax dollar. Inevitably there is found a casual relationship between size, organization and finance.

In some states the school aid formulas provide incentives in order to encourage district reorganization. These include such things as bonus

allotments for the number of pupils enrolled; additional support for transportation costs; and assistance in funding facilities. There is no such encouragement provided in South Dakota.

TABLE 3. Number of Public High Schools (9-12) and Member High Schools of the North Central Association Grouped by Enrollment, 1972-73

Enrollment	Number of High Schools	Percent of Total	Number of NCA Schools
0 - 99	50	26.0	0
100 - 199	76	39.4	10
200 - 299	30	15.5	23
300 - 399	13	6.7	10
400 - 499	5	2.6	5
500 - 599	4	2.1	4
600 - 699	1	.5	1
700 - 799	2	1.0	2
800 - 899	3	1.5	3
900 - 999			
1,000 and above	9	4.7	9
TOTALS	193	100.0	67

The cost per ADM, grouped by enrollments, is shown in Table 4. This indicates the relationship between size of district and cost per pupil. The 38 districts (21 percent) enrolling 250 pupils or less were spending $93.83 more per pupil than the state average of $767.70. On the basis of the previous discussion on accreditation, it is apparent this cost differential is not the result of an inordinate expenditure for instructional materials, special services, or facilities. Rather, it is the product of higher administrative costs and low pupil-teacher ratios.

Although there are few districts (16 percent) enrolling over 1,000 pupils, per pupil costs are clearly less in those districts -- with median costs ranging from $638.58 to $850.62. The median cost per pupil for schools accredited at Level IE was $720; for Level I it was $760; and for Level II it was $850.

The above cited inequities are further illustrated by the information found in Table 5. This table shows the assessed valuation per ADM grouped according to levels of accreditation. The median assessed valuation per pupil for the 177 districts was $20,500. Of those schools accreditated at Level IE, 62.2 percent had per pupil assessments below the median while the Level I districts had 30.3 percent below the median; and Level II districts had 14.3 percent below the median. When these factors are

coupled with the data on per pupil costs it accentuates the fact that economic efficiency is to be found in the districts with larger enrollments. Likewise, the larger districts tend to exert greater effort in the support of schools than do the small districts which tend to have greater wealth per pupil.

TABLE 4. Current Cost Per Average Daily Membership for Independent Districts Grouped by Enrollment, 1971-72

Enrollment	Number of Districts	Percent of Total	Range of Cost Per ADM	Median Cost
0 - 249	38	21.5	$703.30 - $1,387.96	$861.53
250 - 499	59	33.3	576.03 - 1,175.57	762.06
500 - 749	35	19.8	619.13 - 958.59	770.12
750 - 999	16	9.0	662.81 - 899.49	744.36
1,000 - 1,249	9	5.1	643.44 - 850.62	716.86
1,250 - 2,499	9	5.1	667.11 - 866.48	723.56
2,500 - 6,499	9	5.1	650.26 - 853.96	684.41
6,500 - 13,999	0			
14,000 and above	2	1.1	638.58 - 684.41	661.49
TOTAL	177	100.0		

Hi Low Ratio - 2.4.

This observation tends to be corroborated by the data presented in Table 6 which indicates the cost per classroom unit. While it is true that districts with larger enrollments have less assessed valuation per pupil and spend less per pupil, they tend to spend more per classroom unit. This once again is the project of more efficient teacher/pupil ratios, services supplementary to instruction and greater effort.

Some caution needs to be exercised in the use of data on assessed valuation. One must be mindful of the fact that South Dakota has a variable maximum levy between agricultural and non-agricultural property. That factor alone may tend to compound the usual differences found in assessment ratios.

A recent publication of the Associated School Boards of South Dakota[2] suggests that a more realistic indicator of ability is the maximum revenue available per resident pupil. In spite of the fact that such an indicator of ability may be more creditable, all of the data point to the same observation -- that the larger districts have lower financial ability and the smaller districts tend to have a greater financial ability.

TABLE 5. Accreditation Levels of Independent Districts Grouped by Assessed Valuation Per Average Daily Member, 1971-72

Assessed Valuation Per ADM	Number of Districts	Percent of Total	Districts Level IE	Percent	Districts Level I	Percent	Districts Level II	Percent
$10,000 - $14,999	18	10.2	13	28.9	5	6.6		
15,000 - 19,999	41	23.2	15	33.3	18	23.7	8	14.3
20,000 - 24,999	49	27.7	8	17.8	21	27.6	20	35.7
25,000 - 29,999	39	22.0	7	15.0	19	25.0	13	23.2
30,000 - 34,999	17	9.6	1	2.2	9	11.8	7	12.5
35,000 - 39,999	8	4.5	1	2.2	4	5.3	3	5.3
40,000 - 44,999	2	1.1	0		0		2	3.6
45,000 - 49,999	0		0		0		0	
50,000 - 54,999	1	.6	0		0		1	1.8
55,000 - 59,999	2	1.1	0		0		2	3.6
TOTAL	177	100.0	45	100.0	76	100.0	56	100.0

TABLE 6. Cost Per Classroom Unit for Independent Districts Grouped by Enrollment, 1971-72

Enrollment	Number of Districts	Percent	Range of Cost	Median Cost
0 - 249	38	21.5	$11,435 - $16,086	$13,450
250 - 499	59	33.3	11,370 - 22,033	14,422
500 - 749	35	19.8	12,314 - 18,856	14,682
750 - 999	16	9.0	12,537 - 17,242	14,835
1,000 - 1,249	9	5.1	12,590 - 16,901	14,688
1,250 - 2,499	9	5.1	12,803 - 20,005	15,368
2,500 - 6,499	9	5.1	13,423 - 18,306	14,867
6,500 -13,999	0			
14,000 and above	2	1.1	14,086 - 14,842	14,464
TOTAL	177	100.0		

High School Enrollments

Some mention needs to be made with respect to the size of public secondary schools (9-12) in South Dakota. It is enrollment at the high school level which most markedly reveals the relationship of size to program, special services, cost and personnel.

Following is a distribution of high school enrollments during 1972-73:

Enrollment	Number	Percent
0 - 49	6	3.5
50 - 99	44	22.6
100 - 149	49	25.2
150 - 199	27	13.9
200 - 249	19	9.7
250 - 299	11	5.6
300 - 399	13	6.7
400 - 999	15	8.2
1,000 and above	9	4.6
	193	100.0

High school enrollments relate directly to the offerings or courses provided. The number of units (a course offered for one period each day for the school year) is proportional to the size of the school. For instance, a high school of 100 pupils or less would in all likelihood

offer no more than 27 units. That number of units would result in an average class size of 10-15 and the competencies found in a staff numbering six to eight could not be expected to adequately satisfy additional needs. The accreditation standards in South Dakota call for a minimum of 26 units, with the option of 22 for each year and four on alternate years, be offered for Level II; 32 units for Level I; and 38 units for Level IE. The median enrollment of South Dakota high schools is 150 pupils. The number of units offered in half of the high schools is 30 or less; the pupil-teacher ratio is 15 or 16 to 1; and the curricular program necessarily is oriented toward college entrance. The latter factor, when viewed against the evidence that no more than half of the graduates attend college, suggests that in at least a half of the high schools there is a real question regarding the value of much of the program presently available to a large percentage of pupils. Added to this program liability is the paucity of services to meet special needs such as remedial programs, speech therapy, music/art, instructional materials, special education and health. In spite of the absence of curricular units and services, the per pupil costs are notably higher and the reason is essentially one of size. To meet the criteria of educational benefit, economic benefit and efficiency of operation greater numbers need to be brought together for purposes of supporting high school programs of at least a modest level of adequacy.

A study of those high schools in districts with accreditation at Level II shows that, in 1972-73, 58 high schools in South Dakota were located in districts with Level II accreditation. Their range in enrollment was 41 to 213. In these schools 5,052 pupils were enrolled and one teacher employed for every 12.06 pupils. Two high schools enrolled over 200 and 14 had an enrollment of 100-200. Of the 58 high schools 42 (72 percent) enrolled less than 100 pupils. In these 42 schools the total enrollment was 3,017 with a pupil-teacher ratio of 11.05 to 1.

Geographical Location of High Schools

Map 1 shows the size and county designation for each high school in South Dakota. The only exceptions are in Rapid City and Sioux Falls where there are two high schools and the enrollments in each case are combined. The geographical proximity of one high school to another, particularly in the eastern tier of counties, is quite evident. A map inspection of these locations reveals that rarely are existing high schools in the same county more than ten miles apart. Granted, there are road conditions and other physical reasons to exclude mere distance as a viable and overwhelming argument for reorganization. However, in many cases the reasons for sustaining inadequate high school programs have nothing to do with distance, natural barriers, or accessibility to other population centers.

To make possible a high school enrollment of not less than 150 pupils a K-12 or district enrollment must be at least 500. An enrollment

of 150 pupils would exceed 51 percent of the high school enrollments as of 1972-73.

Geographical Distribution of Districts

Map 2 shows the distribution of school districts by county with the ADM figures for each independent school district within each county.

A cursory examination reveals that the land area of the state is almost equally divided by the Missouri River. The area west of the Missouri River is characterized by a much larger land area per county, sparsity of population, vast areas which are unproductive and virtually uninhabited, large tracts set aside as reservation land, and limited miles of all-weather roads. Agricultural productivity is largely limited to raising livestock and wheat. In this area of the state the reduction of school districts has been proportionately greater. Excluding the two independent districts contracting with adjacent states, 42 independent districts had an enrollment range from 131 to 14,000. Eleven of the districts (26 percent) enrolled less than 500 pupils (K-12) and three of these represent the enrollment for the entire county.

When one looks at the area east of the Missouri River the response to school district reorganization is obviously quite different. In the eastern portion of the state, particularly in the tier of counties in the eastern third of the state, the population is more concentrated, the geographical area of the county is smaller, the all-weather road network is better, the land more productive and the economy is abetted by some manufacturing and industry. Small towns still survive and tend to continue to maintain a school district in its environs in spite of population movement to larger communities. Excluding the eight districts contracting for services with adjacent states, there were 143 independent districts during the 1971-72 school year. In these 143 districts the range of ADM was 118 to 18,500. There were 71 of these districts, or nearly 50 percent, enrolling 500 pupils (K-12) or less.

Two other characteristics of the independent districts should be noted. First, most of the districts overlap county lines. Historically, there has been no compelling reason for school districts to parallel or fall within county boundaries. Secondly, the configuration of most districts is most erratic in terms of its boundaries. This gerrymandering is obviously the product of concern for financial advantage rather than in terms of serving pupils wherever their place of residence.

Common School Districts

There were 36 common school districts operating in South Dakota during 1972-73 and four of those were non-operating districts. All of these districts were located in four counties and brief descriptive information is summarized for each county.

1. Bennett. Number of districts: 5; Enrollment range: 16 to 428; Pupil-Teacher ratio: 19.4; Range of cost per ADM: $730 to $1,676.

2. Potter. Number of districts: 14; Non-operating: 3; Enrollment range: 6 to 54; Pupil-Teacher ratio: 12.1; Range of cost per ADM: $485 to $1,570.

3. Stanley. Number of districts: 8; Enrollment range: 3 to 367; Pupil-Teacher ratio: 19.4; Range of cost per ADM: $452 to $2,066.

4. Sully. Number of districts: 9; Non-operating: 1; Enrollment range: 5 to 66; Pupil-Teacher ratio: 12.4; Range of cost per ADM: $885 to $1,245.

There were 1,465 pupils enrolled in these 32 operating districts with a pupil-teacher ratio of 15.9. In 1971-72 the range in cost per ADM was $452 to $2,066 with an average cost of $1,144 as compared to $780 for the independent districts of the state.

Commentary and Recommendations

The progress made in recent years with respect to school district reorganization in South Dakota is perhaps unmatched on the contemporary scene. The impetus of SB130 set in motion the subsequent reduction of hundreds of school districts. A great number of legislators, lay citizens and personnel in the state department contributed their efforts in bringing about the changes which have resulted. When such efforts have been expended, the very natural tendency is to assume the task to be completed. This attitude would ignore the reality that school district reorganization is never completed, for it must always be viewed in terms of the type of administrative unit which can best respond to constantly changing needs.

On the basis of the data contained herein, and a degree of familiarity with South Dakota, several observations seem appropriate:

1. The present mood on the part of the citizenry is to do nothing with respect to major changes in school district boundaries. Only through mandated action will needed changes of any consequence be realized in South Dakota.

2. School districts, both past and present, are largely the product of financial expediency and not the result of a high priority concern and commitment to best serve the needs of pupils. If educational needs had been a high priority concern to local communities, the present configuration of many school districts would not have materialized.

3. Still strong influences in the state still reject the notion that school districts are subdivisions of the state and that education is a

responsibility of the state with the resultant obligation that all citizens contribute to its support.

4. School district reorganization cannot be sold on the premise that it will save money or lower taxes. Such an argument is fraught with danger. In fact, reorganization may result in greater expenditure, for it makes possible a heightened degree of responsiveness to pupil needs. One must view financial benefits in terms of resultant efficiencies, more prudent use of the tax dollar and the provision of educational opportunities previously not available.

5. Past response to educational needs, particularly in terms of the legislative response to those needs, has been inconsistent and frequently contradictory. A positive policy cannot be identified with respect to the obligation of the state toward education, its management and how it is organized. The needs are not solely financial for more money is not necessarily reflected in better educational programs. Rather, it is coming to grips with the constitutional provision that the state is responsible for a uniform system of education for all of the children of the state. Permissiveness in terms of what is adequacy with respect to school district organization will not suffice when the educational opportunities of school-age children are at stake. The outmoded theory that school district boundaries are a matter only of local determination must be discarded. Attendance units may logically be determined locally, but not administrative units.

Only the state legislature can speak directly and positively to this matter.

6. In spite of the fact there has been a quantitative reduction of school districts, little data can be found which relates to the consequences of the elimination of many school districts. Subsequent efforts to reorganize will necessitate more than arguments of expediency. They will call for hard data in terms of what has happened with respect to expanded opportunities for pupils, greater returns on the money invested, gains in pupil achievement, special services provided, quality of professional personnel, availability of instructional materials, and opinions of those affected.

In the absence of such data decisions will unfortunately tend to be affected by some of the flimsy and untested contentions regarding pupil/teacher cost ratios; comparing cost figures without reference to the returns provided; or parading some of the familiar cliches regarding the loss of local control.

Recommendations

1. Only one type of school district should exist in South Dakota - the independent district. Legislative action to accomplish this should be taken as soon as possible.

2. The State Board of Education, in response to the charge given it by the legislature, should take action with respect to the following:

a. Within a period of two years no district should be accredited which maintains a high school of less than 100 pupils except in those cases where the district encompasses an area greater than four (4) townships; and furthermore, within a period of five (5) years no district should be accredited which maintains a high school of less than 150 pupils except in those cases where the district encompasses an area greater than four (4) townships.

b. A longitudinal study should be conducted which identifies the outcomes of school district reorganization in South Dakota.

c. The planning and implementation of multi-district units should be encouraged for the provision of services and programs not feasible in the local district. These cooperatives or regional districts could satisfy important needs not possible at present or in the foreseeable future. Such needs as cooperative purchasing, special education programs, employment of specialized personnel, computer services and instructional materials might only be realized through cooperative efforts among districts.

d. A task force should be selected in each county to serve in an adjunct relationship with the State Board of Education. Each group should be composed of one school board member and one administrator from each independent district and no more than five representatives selected at large and appointed by the judge who has jurisdiction in the respective county. Provisions should be made for overlapping terms to provide some degree of continuity. The purposes for such a task force would include:

(1) Providing a means of engaging in discussions regarding goals, needs and problems with respect to education in specified geographical areas of the state;

(2) Studying and communicating ways in which the needs of pupils might be met more effectively and efficiently than is presently the case;

(3) Serving as an important communication agent both to and from the State Board of Education with respect to proposals and plans as they affect local districts; and

(4) Providing some sustaining influence in response to the efforts and ideas generated through the Community Involvement Plan.

FINANCING PUBLIC SCHOOL CONSTRUCTION*

Historical Background

South Dakota has a long history of State government concern for school facilities. In 1887, two years before statehood, the Territorial Board of Education was charged with the responsibility of adopting and furnishing schoolhouse plans. This responsibility was later transferred to the State Superintendent of Public Instruction.[1]

The biennial report for 1908-1910 of the State Superintendent included observations concerning the differences across the State in providing modern schoolhouses. The point was made that country schools were most often those that lagged behind and a plea was made for state aid for school construction in sparsely settled communities.[2] While such recommendations were never favorably acted upon by the legislature, they did serve the purpose of keeping before the citizens the responsibility of the State for education.

Problems concerning support for public education in South Dakota reached crisis proportions in 1918 as reaction to World War I swept the State. Schooler noted that a number of neighborhoods were comprised of immigrants who could not speak or write English; schooling was deemphasized to increase agricultural production; a negativism toward education was evident since it interferred with the right of parents to use their children for labor; and school buildings in some areas deteriorated to conditions that actually hampered students in their work.[3]

In 1919 the South Dakota legislature recognized the degeneration of education by passing the Americanization Act. The main purpose of this act was to disseminate propaganda pro to education and maintain strong schools.[4] While no direct state aid for schoolhouses resulted from this act, it did revive the interest of adults in education by providing them with night schools and other forms of adult programs. The obvious result was stronger local support for schools.

State concern for school facilities continued to be evident in the 1950's when the State legislature in 1951, following a report by Superintendent Harold Freeman that South Dakota's State Department of Public Instruction had the least number of professionals of any state department in the country, approved the position for a consultant on school building and facilities.[5] A change in the State's constitution in 1954 increased the limitation on school district debt from five to ten percent of assessed valuation. In 1957, the legislature, in substantially changing the structure and powers of the State Board of Education, restricted the Board's authority to "suggesting" standards

---

*A study performed by C. Cale Hudson, Department of Educational Administration, University of Nebraska.

for school building plans.[6]

Concern for recognition of school buildings as a part of the State's responsibility for quality education is threaded throughout the State's history. However, the State's legislatures have provided little direct economic aid to districts for school building construction, nor have they permitted the State Board to provide significant leadership in this area.

The Current Program

In South Dakota, the provision of public school facilities is primarily a responsibility of the local school districts. However, the school districts must have their building plans and sites approved by the State Superintendent of Public Instruction before seeking bids, and the criteria for site and plan approval are established by the State Board of Education. Consultant aid is available from the Department of Public Instruction,but is limited by a shortage of personnel assigned to this area.

In the area of funding for capital outlay, State government serves as a control agent on debt limits and procedural matters. Data pertinent to the financial programs of school districts are reported by the Department of Public Instruction.

Source of Funds

School districts have two major sources of funding for capital outlay available to them. One source is from a local property tax levy; the other is through the issuance of local school district general obligation bonds. Both methods require the yield to be deposited in the district's Capital Outlay Fund. The annual tax levy method may be regarded as a "pay-in-advance," or more commonly, a "pay-as-you-go" approach while the bond issue method is more of a "pay later" or debt system.

The data in Table 1 show the sources of funds for the Capital Outlay Fund during 1971-72. The citizens of South Dakota are reluctant to acquire debt and perfer the "pay-as-you-go" plan to meet their school facilities needs.

TABLE 1. Sources of Funds for Capital Outlay of South Dakota School Districts During 1971-72

Revenue Funds	Amounts	Percent of Total
Local	$ 9,781,397	86.02
County	260	---
State	41,121	.36
Federal	637,412	5.61
Sub-totals	$10,460,190	91.99

Non-revenue Funds	Amounts	Percent of Total
Sale of Bonds	$ 840,457	7.39
Promissory Notes	7,158	.06
Other	63,220	.56
Sub-totals	$ 910,835	8.01

SOURCE: Educational Statistics Digest, 1971-72, State Department of Public Instruction

Local Property Tax for Capital Outlay. Local school boards in South Dakota have the option of levying a tax rate of up to five mills on the property tax base for the Capital Outlay Fund.[7] Revenue from the levy may not be transferred to other funds. There was an exception to the "no-transfer" clause made by the legislature in 1970 which permitted schools with a maximum General Fund levy to transfer 60 percent of their surplus Capital Outlay Fund levy receipts to the General Fund. This authorization expired December 31, 1971.

School District Bonds for Capital Outlay.[8] School districts may borrow funds by issuing general obligation bonds. The districts are limited to a debt level of not more than ten percent of their assessed valuation by constitution. A plurality of 60 percent of the voters taking part in a special or general election is required to approve a bond issue. Approval of an issue carries with it the authorization to levy an annual tax sufficient to amortize the debt. There is no legal limit on the length of term of a bond issue or on the interest rate.

Local school boards must initiate a bond issue election to

acquire new debt. The decision is independent of any State agency approval. Notice and results of the election must be filed with the Commissioner of School and Public Lands. When a bond issue election fails, it may not be resubmitted for a new election in less than twelve months unless it is for a different amount. Bond issues to refund outstanding debt are floated at the option of the school board and do not require voter approval.

When bond issues are approved for sale, they must be advertised and sealed bids received. The school district officers are responsible for maintaining bond records and for payment of the bonds.

Loans--Grants. There are no provisions for the State to loan or grant funds for school facilities. State law does permit the Commissioner of School and Public Lands to invest Permanent School Funds in school district bonds at no less than a six percent interest rate. Such investments, however, are based solely on their advantage to the Permanent School Fund which would require a rare set of circumstances. For all practical purposes, the resources of the Permanent School Fund, some $53 million, are not available for loans to the public schools.

Capital Outlay Fund. The Capital Outlay Fund is defined by statute in South Dakota as "...a fund provided by law to meet expenditures which result in the acquisition of fixed assets or additions to fixed assets...it may also be used for installment payments for the purchase of fixed assets...."[9] State law restricts installment purchase contracts to a term of no more than ten years and an amount of principal not in excess of three percent of the district's assessed valuation.[10]

When the amount of the principal of the installment purchase contract exceeds one and one-half percent of the district's assessed valuation, a public hearing is required. Upon petition by ten percent of the people in the district who voted for Governor in the last general election, a proposed contract may be subject to a referendum. A majority approval is needed to carry the issue. Any contract for purchases through installment payments from the Capital Outlay Fund requires an annual tax levy, not to exceed five mills, to meet the debt service needs.[11]

Outcomes of South Dakota's Plan for School Construction--Statewide Data

This section contains statewide data relative to school construction project costs, depreciation vs. construction rates, and factors affecting rate of schoolhouse construction. These data will be studied and an analysis and discussion presented. The result will reflect statewide outcomes of South Dakota's plan for school construction.

School Construction Project Costs

To study the State data on schoolhouse construction, the amounts and variances in project costs and the percent of students served will be analyzed. Table 2 contains cost and capacity data reported over an eighteen year period for school construction projects. Although there were several examples of incomplete reports in the source for the Table 2 data, the analysis is useful.

The data in Table 2 show that over 117 million dollars were committed during the eighteen year period, 1954-1972, for school construction. Space was provided in new or remodeled buildings for 86,239 students. The Educational Statistics Digest, published by the Department of Public Instruction, reported an enrollment of 171,636 students in grades K-12 of South Dakota's public schools during 1971-72. This means that 50.25 percent of the students could be housed in facilities eighteen years or less in age. Obviously, such conclusions assume a proper distribution of enrollments. Data were not available which would show the number of students still housed in obsolete or inadequate facilities.

Project cost information in Table 2 indicates that 32.6 percent of the total amount for the eighteen year period was committed during the four year period, 1964-65 through 1967-68. Project costs for 1971-72 were slightly under four million dollars, the least amount since 1962-63.

Depreciation vs. Construction Rates

There is no firm consensus for determining the annual depreciation rate on schoolhouses. Both age and changing education needs are factors in determining when a structure is no longer usable. Good maintenance, remodeling, and ingenuity have greatly extended the "life" of many schoolhouses. With these caveats in mind, however, it still is meaningful to look at the annual rate of construction in terms of the capacity of new projects compared to total State enrollment of students.

In Table 3 are presented the annual rate of construction capacities compared to State enrollments for the past decade. A rule-of-thumb depreciation rate often used for school buildings is two percent per year. Using this standard, it appears from data in Table 3 that the people of South Dakota were providing for school building construction at an adequate average rate during the major part of the 1960's. However, the replacement rate has dropped well below two percent per year since 1968-69.

TABLE 2. Total Project Costs and Student Capacity of School Building Construction in South Dakota, 1954-1972, as Reported to the State Consultant.

Year	Reported Project Costs	Reported Student Capacity
1954-55	$ 5,623,809	4,776
1955-56	5,507,264	4,747
1956-57	10,098,664	6,741
1957-58	3,581,948	3,355
1958-59	2,722,332	2,311
1959-60	6,129,051	4,204
1960-61	8,629,076	6,114
1961-62	6,852,809	6,653
1962-63	2,790,429	2,367
1963-64	5,771,011	5,052
1964-65	7,026,695	5,126
1965-66	11,508,516	11,362
1966-67	7,609,841	4,907
1967-68	12,263,386	6,248
1968-69	6,037,052	3,622
1969-70	6,158,966	3,136
1970-71	5,243,187	3,119
1971-72	3,982,183	2,399
Totals	$117,536,219	86,239

SOURCE: Summary of School Building Construction, South Dakota S.D.I., 1954-55 through 1971-72. Includes costs of new construction, remodeling, relocatable, and temporary facilities.

Factors Affecting Rate of Schoolhouse Construction

The reasons for slow-downs in school building construction can be varied and complex. Need factors might decrease due to stabilization of population both in terms of total growth and/or migration patterns. Also, it is possible that during the years of relatively high construction activity, such as the mid 1960's, a surplus of school rooms was provided. Thus, it is important that a state continually assess its school building requirements. Presently, there does not appear to be a formal program for determining the present or projected need for school buildings in the State of South Dakota.

Economic pressures often find a measure of relief through rejection of school construction programs. This is even more plausible when the total burden of cost rests on the school district. Contained in Table 4 are data for the State's school districts concerning their bonded debt, assessed valuation of property for tax purposes, and debt ratio.

TABLE 3. A Comparison of the Reported Capacity of New School Construction with Total State Enrollment in South Dakota for the Period 1962-63 Through 1971-72

Year	Capacity of Projects	State Enrollment	Percent
1962-63	2,367	168,173	1.41
1963-64	5,052	170,224	2.97
1964-65	5,126	171,958	2.98
1965-66	11,362	172,965	6.57
1966-67	4,907	175,252	2.80
1967-68	6,248	175,654	3.56
1968-69	3,622	173,791	2.08
1969-70	3,136	172,616	1.82
1970-71	3,119	173,006	1.80
1971-72	2,399	171,636	1.40

SOURCE: Educational Statistics Digest and Summary of School Building Construction, from the South Dakota S.D.I. Percents were calculated.

TABLE 4. The Bonded Debt, Assessed Valuation, and Debt Ratio of School Districts in South Dakota, 1962-63 Through 1971-72

Year	Bonded Debt	Assessed Valuation	Debt Ratio
1962-63	$28,481,007	$2,275,012,789	1.25
1963-64	29,877,621	2,332,916,529	1.28
1964-65	37,508,243	2,399,174,482	1.56
1965-66	40,176,956	2,392,856,487	1.68
1966-67	43,022,267	2,413,552,046	1.78
1967-68	46,486,458	2,602,888,000	1.79
1968-69	47,016,039	2,736,201,514	1.72
1969-70	42,607,374	3,025,594,642	1.41
1970-71	42,168,298	3,073,725,765	1.37
1971-72	40,954,522	3,227,753,157	1.27

SOURCE: Educational Statistics Digest, 1971-72, South Dakota S.D.I. Debt ratio was calculated.

The data in Table 4 show that both total debt and debt ratios peaked during the mid 60's, this pattern corresponds with the surge in project costs shown in Table 2. The percent of bonded debt by 1971-72 had returned to the level of 1962-63. Since the constitutional debt limit on individual districts is ten percent of assessed valuation, it is clear that the aggregate debt leeway for the State is between eight and nine percent, a relatively low level of debt.

Data in Table 4 show an increase, between 1962-63 and 1971-72, of 43.8 percent in bonded debt while the property tax base increased 41.9 percent. Data from Table 4 do not suggest that either the level of bonded debt or the tax base of the school districts should prevent citizens from meeting schoolhouse needs.

Capital outlay amounts may not reflect the impact on taxpayers since such expenditures may be borrowed funds. Only when the funds are repaid, interest and principal, are tax rates affected. Data in Table 5 show how amounts and calculated state average mill rates for debt service have changed in recent years.

Data in Table 5 indicate that interest and principal payments on debt have increased slightly over two million dollars or 73.8 percent in ten years for school district taxpayers. Since the tax base only increased 41.9 percent, there was an increase in mill levy requirements. During the years 1962-63 through 1971-72, there was less than a one-half mill variance in the calculated state average tax rate for debt service.

TABLE 5. Disbursements from the Bond Redemption Fund, Assessed Valuation and Calculated State Average Mill Levies for South Dakota, 1962-63 through 1971-72

Year	Bond Redemption Fund Disbursements	Assessed Valuation	State Average Mill Levy
1962-63	$2,852,503	$2,275,012,789	1.25
1963-64	3,030,019	2,332,916,529	1.30
1964-65	3,096,411	2,399,174,482	1.29
1965-66	3,409,489	2,392,856,487	1.46
1966-67	3,980,235	2,413,552,046	1.65
1967-68	4,224,034	2,602,888,000	1.62
1968-69	4,747,907	2,736,201,514	1.74
1969-70	4,702,786	3,025,594,642	1.55
1970-71	4,903,858	3,073,725,765	1.60
1971-72	4,957,625	3,227,753,157	1.54

SOURCE: Educational Statistics Digest, 1971-72, South Dakota S.D.I. Mill levy was calculated.

Since taxpayers are apt to react to their total effort for schools by resisting building programs, it is reasonable to look at the pattern of revenue from local taxes and tax effort in recent years. In Table 6 are the data necessary for this analysis. These data show that school district taxes increased from $48,284,332 to $88,012,385 between 1962-63 and 1971-72 or 82.3 percent while the assessed valuation increased only 41.9 percent. Failure of the local tax base to increase in proportion to revenues resulted in an increase in the hypothetical state average mill levy. The increase from 21.22 mills to 27.27 mills, or 28.51 percent, in the ten year period, might well cause resistance to building programs on the basis of the total school tax burden.

Evidence in Tables 2 through 6 indicates that when the needs, ability, and effort of the State for school building construction are considered from a macro-economic standpoint, South Dakota has in recent years provided classrooms at an acceptable rate without a major increase in financial burden. However, since the financial provision for school buildings is primarily a local responsibility in South Dakota, the use of state averages may be misleading. Hence, in the next section, an analysis and discussion will be presented of eighteen selected school districts in the State of South Dakota.

TABLE 6. School District Tax Revenues, Assessed Valuation, and State Average Mill Levies for South Dakota, 1962-63 Through 1971-72

Year	School District Tax Revenues	Assessed Valuation	State Average Mill Levy
1962-63	$48,284,332	$2,275,012,789	21.22
1963-64	52,473,990	2,332,916,529	22.49
1964-65	55,450,129	2,399,174,482	23.11
1965-66	57,680,372	2,392,856,487	24.10
1966-67	60,690,115	2,413,552,046	25.14
1967-68	64,272,985	2,602,888,000	24.69
1968-69	69,808,664	2,736,201,514	25.51
1969-70	74,786,323	3,025,594,642	24.72
1970-71	82,348,430	3,073,725,765	26.79
1971-72	88,012,385	3,227,753,157	27.27

SOURCE: Educational Statistics Digest, 1971-72, South Dakota S.D.I. Mill levies were calculated.

Impact of Present Program on Selected Districts

There were 218 school districts in South Dakota during 1971-72. It was beyond the scope of this report to analyze the impact of the present program for financing school buildings in South Dakota in each of the districts. Hence, a sample of eighteen independent school districts was selected for the more detailed study. The districts were selected with the intent of providing in the sample a wide range in terms of size of enrollment, property tax base per student, and geographic location.

On the following page, an outline map of South Dakota shows the geographic distribution of the eighteen sample school districts. The concept of distribution was sacrificed in some instances so that major city as well as suburban school districts could be included in the sample since their problems are typically quite different.

Table 7 contains the data concerning enrollments and assessed valuation in the sample districts. Resident enrollment for the sample districts was 27.2 percent of that for the entire State while the assessed valuation was 25.2 of that for the state.

The range in enrollments of the selected school districts in Table 7 was from 18,626 to 121 students. The corresponding range for assessed valuation per resident student was from $57,586 to $10,170. The median assessed valuation per resident student was between $16,436 and $22,267 which approximates the state average assessed valuation per student of $18,351.

The data in Table 7 indicate an inverse relationship between enrollment and tax base of school districts. The seven districts included in the sample that had enrollments in excess of 1,000 students were below the state average property tax base per student. Among the smaller school districts, only Hill City and Waubay had less than a state average per student tax base. This suggests that the more populous areas typically have less ability per unit to finance education, including school buildings, under the local property tax system.

SOUTH DAKOTA

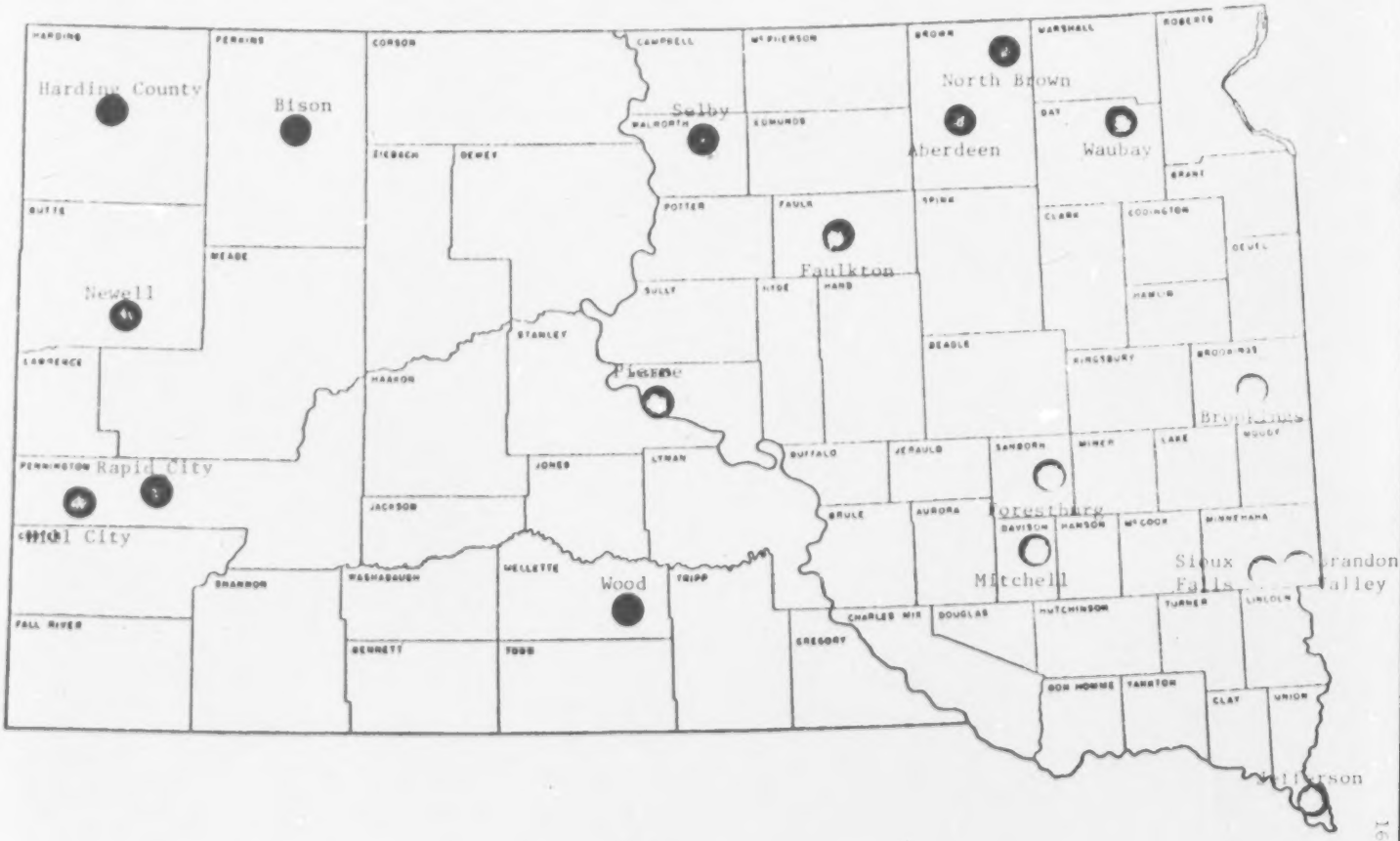


TABLE 7. Resident Enrollments and Assessed Valuations Per Resident Students During 1971-72 of Eighteen Selected School Districts in South Dakota.

School District	County	Resident Enrollment	Sample Rank	A.V. per Resident Student	Sample Rank
Aberdeen	Brown	6,302	3	$ 13,374	14
Bison	Perkins	373	14	40,619	2
Brandon Valley	Minnehaha	1,450	7	16,436	10
Brookings	Brookings	2,899	6	15,424	12
Faulkton	Faulk	708	9	27,047	5
Forestburg	Sanborn	121	18	40,614	3
Harding County	Harding	308	15	57,586	1
Hill City	Pennington	484	12	11,769	17
Jefferson	Union	209	16	32,267	9
Mitchell	Davison	3,548	4	15,999	11
Newell	Butte	663	10	23,495	7
North Brown	Brown	815	8	22,365	8
Pierre	Hughes	2,905	5	14,622	13
Rapid City	Pennington	13,917	2	10,170	18
Selby	Walworth	514	11	34,591	6
Sioux Falls	Minnehaha	18,626	1	12,147	16
Waubay	Day	483	13	13,188	15
Wood	Mellette	205	17	34,971	4

SOURCE: A Summary of Assessed Valuations and Enrollments by County and District, South Dakota S.D.T., 1971-72.

Fiscal Capacity and Effort

As discussed earlier in this report, school districts in South Dakota have two basic methods of financing school building construction: (1) general obligation bonds may be issued, with approval of sixty percent of the electors, up to a constitutional total debt limit of ten percent of assessed valuation, and (2) a local mill levy, at the option of the school board, of no more than five mills, with the yield to be deposited in the Capital Outlay Fund. The utilization of these sources of funds by the sample districts was reviewed.

School District Bonds. The capacity of each of the eighteen sample school districts to borrow funds at any given time is related to their assessed valuation and to their outstanding debt. Contained in Table 8 are data reflecting the debt status of the sample districts. The bonded debt potential of a district was derived by taking the State

constitutional debt limit of ten percent times the assessed valuation. Debt leeway was the difference between potential debt and outstanding debt.

Data in Table 8 reveal some of the complex features of school finance. The large school districts, with their typically lower ranking tax base per student as shown in Table 7 nevertheless have debt leeways sufficiently large to enter into major building programs. A number of the smaller districts such as Jefferson, Hill City, Waubay, and Forestburg would be hard pressed to finance major building programs with their low assessed valuation. If the sample of school districts used in this report is valid, then there are undoubtedly many more small, tax-base poor school districts operating in the "State's" education system.

TABLE 8. Assessed Valuation, Bonded Debt Potential, Bonded Debt Outstanding, and Debt Leeway of Eighteen Selected School Districts in South Dakota, 1971-72

School District (1)	Assessed Valuation (2)	Bonded Debt Potential (3)	Bonded Debt Outstanding (4)	Debt Leeway (5)
Aberdeen	$ 84,285,850	$ 8,428,585	$ 1,620,000	$ 6,808,585
Bison	15,150,754	1,515,075	-0-	1,515,075
Brandon Valley	23,832,719	2,353,272	790,000	1,593,272
Brookings	44,714,541	4,471,454	1,490,000	2,981,454
Faulkton	19,786,287	1,978,629	160,000	1,818,629
Forestburg	4,914,321	491,432	-0-	491,432
Harding County	21,191,468	2,119,147	-0-	2,119,147
Hill City	5,696,380	569,638	75,000	494,638
Jefferson	4,653,712	465,371	66,000	399,371
Mitchell	56,763,055	5,676,306	1,560,000	4,116,306
Newell	16,047,260	1,604,726	125,000	1,479,726
North Brown	18,227,073	1,822,707	-0-	1,822,707
Pierre	42,476,811	4,247,681	1,725,000	2,522,681
Rapid City	141,542,447	14,154,245	4,880,000	9,274,245
Selby	12,639,793	1,263,980	-0-	1,263,980
Sioux Falls	226,426,679	22,642,668	2,195,000	20,447,668
Waubay	6,369,596	636,960	-0-	636,960
Wood	7,169,077	716,908	-0-	716,908

SOURCE: A Summary of Assessed Valuations and Enrollments by County and District, South Dakota S.D.I., 1971-72.

The data in Table 9 are an extension and further analysis of the data from Tables 7 and 8. It is evident from the consistently low percentage of debt reported in column 3 of Table 9 that the sample districts fit the statewide pattern, noted earlier, of a reluctance to borrow funds for school building construction.

An analysis of Table 9 also underscores the danger of imcomplete data. The districts of Wood, Selby, and Waubay, for example, all appear in Table 9 to be more capable of financing school construction than Sioux Falls or Pierre but this is doubtful when size and total debt leeway is considered. The concept of an acceptable functional size for a school district must take into account all of its operational needs, including buildings.

TABLE 9. Bonded Debt, Percentage of Debt to Assessed Valuation, Debt Per Resident Student, and Debt Leeway Per Resident Student, June 30, 1972, in Eighteen Selected School Districts in South Dakota

School District (1)	Bonded Debt (2)	Percentage Debt A.V. (3)	Debt Per Resident Student (4)	Debt Leeway Per Resident Student (5)
Aberdeen	$1,620,000	1.92	$257	$1,080
Bison	-0-	-0-	-0-	4,062
Brandon Valley	790,000	3.31	545	1,099
Brookings	1,490,000	3.33	514	1,028
Faulkton	160,000	.81	226	2,568
Forestburg	-0-	-0-	-0-	4,061
Harding County	-0-	-0-	-0-	5,759
Hill City	75,000	1.32	155	1,022
Jefferson	66,000	1.42	316	1,911
Mitchell	1,560,000	2.75	440	1,159
Newell	125,000	.78	183	2,167
North Brown	-0-	-0-	-0-	2,236
Pierre	1,725,000	4.06	594	868
Rapid City	4,880,000	3.45	351	666
Selby	-0-	-0-	-0-	2,459
Sioux Falls	2,195,000	.97	118	1,096
Waubay	-0-	-0-	-0-	1,314
Wood	-0-	-0-	-0-	3,497

SOURCE: Bonded debt amounts were reported on the annual financial reports of the school districts. Columns 3 and 4 were calculated by use of additional data from A Summary of Assessed Valuations and Enrollments by County and District, South Dakota S.D.I., 1971-72.

School District Effort. Accounting procedures in South Dakota recognize a Bond Redemption Fund and a Capital Outlay Fund. Since expenditures for all types of capital outlay are reported against the Capital Outlay Fund, it is not an exact accounting of school housing costs. However, the millage rates for these two funds have a close proximity to the effort being made for school facilities. Income from the sale of bonds and a local mill levy is receipted to the Capital Outlay Fund while Bond Redemption Fund receipts are specifically determined by the rate required to amortize bonded indebtedness and interest.

When South Dakota started a major reorganization of school districts in the late 1960's, many of the "master plans" provided that existing debt remain the obligation of the original units. This has resulted in substantial variations in levels of mill rates for debt service within the new reorganized districts. In Table 10 are data related to 1971-72 millage rates in the eighteen sample districts. The Bond Redemption Fund rates reflect the maximum paid by any portion of the district since it was reasoned that this section would be most burdened by additional debt.

The data from Table 10 show that only Faulkton and Forestburg operated without a Capital Outlay Fund tax levy in 1971-72. Six of the districts levied the maximum amount of five mills and three others were well over four mills for capital outlay. While this seems to be further evidence of the citizens of South Dakota's preference for pay-as-you-go financing, it may also reflect the fiscal independence of school boards exercising their right to levy up to five mills for the Capital Outlay Fund without a vote from the people.

Five of the districts in Table 10 had no Bond Redemption Fund mill levy. Newell's relatively high 11.03 mill rate applied to approximately twenty percent of the district's total valuation. Only Forestburg was without either a Capital Outlay or Bond Redemption Fund levy.

The variations in the total millage levels shown in Table 10 seem indicative of either differences in willingness to make an effort or in need. Assuming that the sample is indicative of conditions statewide, then it is important to examine more closely the status of building needs in the eighteen school districts.

School Building Construction and Needs

The extent to which a program is meeting needs is a valid measure of its effectiveness. From data contained in annual reports to the State Consultant for School Buildings, it was possible to review the results of school building programs in the eighteen sample school districts and to get some estimate of the present status of construction needs.

TABLE 10. Millage Rates for Capital Outlay and Bond Redemption Funds in Eighteen Selected School Districts in South Dakota During 1971-72

School District	Mill Levy by Fund		
	Capital Outlay	Bond Redemption	Total
Aberdeen	5.00	3.67*	8.67*
Bison	4.93	3.74*	8.67*
Brandon Valley	3.94	2.94	6.88
Brookings	4.97	2.98	7.95
Faulkton	-0-	1.55*	1.55*
Forestburg	-0-	-0-	-0-
Harding County	1.66	-0-	1.66
Hill City	4.55	4.01	8.56
Jefferson	5.00	4.59	9.59
Mitchell	4.98	4.30*	9.28*
Newell	2.89	11.03*	13.92*
North Brown	5.00	2.30*	7.30*
Pierre	3.31	5.23*	8.54*
Rapid City	5.00	5.56*	10.56*
Selby	1.51	-0-	1.51
Sioux Falls	5.00	1.32	6.32
Waubay	5.00	-0-	5.00
Wood	1.86	-0-	1.86

SOURCE: Reports compiled in the South Dakota Department of Revenue.

* This levy was not uniform throughout the district due to reorganization obligations. It represents maximum paid by any portion of the district.

School Building Construction Since 1953. Contained in Table 11 are the project costs, capacity, and percentage of students provided with facilities built since June, 1953 in the sample eighteen school districts.

Five of the eighteen sample districts did not have classrooms or other areas less than nineteen years old. This is not necessarily bad since a low or no growth enrollment in adequate but older housing is not an uncommon situation. The remaining thirteen districts ranged from 28.2 percent to 75.5 percent of their student enrollment provided with newer facilities since 1953. This appears to be an acceptable rate of construction if adequate housing is available for the balance of the students.

TABLE 11. The Reported Project Costs, Reported Capacity, and Percentage of 1971 Resident Enrollment Provided with Post June, 1953 School Housing in Eighteen Selected South Dakota School Districts

School District	Reported Project Costs	Reported Capacity	Percentage of 1971 Enrollment in Post 1953 Construction
Aberdeen	$ 5,783,318	3,110	49.3
Bison	369,329	202	54.2
Brandon Valley	1,652,742	830	57.2
Brookings	3,896,969	1,770	61.1
Faulkton	476,235	489	69.0
Forestburg	-0-	-0-	-0-
Harding County	-0-	-0-	-0-
Hill City	153,480	180	37.2
Jefferson	62,606	59	28.2
Mitchell	4,911,142	2,680	75.5
Newell	389,000	230	38.0
North Brown	180,344	-0-	-0-
Pierre	2,003,330	1,220	42.0
Rapid City	14,733,831	7,456	53.6
Selby	494,596	360	70.0
Sioux Falls	12,651,521	8,185	43.9
Waubay	1,300	-0-	-0-
Wood	-0-	-0-	-0-

SOURCE: Records of school district reports to the S.D.I. and Summary of School Building Construction in South Dakota, S.D.I. copies 1953-54 through 1971-72.

Note: Project costs included gymnasiums, lunchrooms, service buildings, etc.; however, such structures were not assigned capacity values. Student capacity estimates were included for remodeling projects.

Perceptions of Need in the Sample Districts. Reports on the status of a district's buildings in narrative form are requested each year by the State School Buildings Consultant. The reports vary from over one typewritten page to a single paragraph to "no report." Lack of authority to require these reports and of time to cajole them from local authorities make it difficult to get precise data on facility needs. A brief interpretation of the reports filed, 1970-71 through 1972-73, from the eighteen sample districts follows.

Aberdeen: A new elementary school and junior high school has met needs. The present use of older elementary schools will cease with declining enrollments. Some shortage of special areas exist at the high school level.

Bison: A new elementary building has met overcrowding needs due to reorganization. Shop space will be needed if vocational education is expanded. Buildings are in good condition. Enrollment projections are down.

Brandon Valley: Growth in enrollments has been steady since reorganization in 1962. There is a new high school building. Over 300 pupils, twenty percent of enrollment, are in temporary or inadequate buildings; kindergarten classes are in local churches. Bond issues were rejected by the voters in 1971 and 1972.

Brookings: Last report filed 1970-71. The high school is new and adequate, the junior high school is fifty years old and a primary building is sixty years old. Construction is needed.

Faulkton: A very brief report indicated that two new classrooms were to be provided and that one building was given a poor initial rating by the State Fire Marshal.

Forestburg: The buildings are well maintained and adequate.

Harding County: There is a serious shortage of high school classroom space. The library and office areas are inadequate. Declining elementary enrollment providing limited relief.

Hill City: The high school building is old. It houses grades 7-12. Physical education is in a rented area and music is in a frame building annex. One elementary is new and is at capacity. A second elementary is an older frame structure. Classrooms are needed.

Jefferson: Enrollment in increasing. Students are housed in leased buildings and portable units. Architects have been hired for a new high school.

Mitchell: The junior high school is new and the senior high is only ten years old. Five elementary schools are adequate with improvement scheduled for two 1922 buildings. Four rural schools of the one and two teacher variety are part of the district through reorganization. The school day has been extended in the high schools to accomodate enrollments.

Newell: Facilities are adequate. Some thought is being given to replace a structure now used for vocational agriculture,

home economics and science.

North Brown: School centers are located in three towns. Adequate elementary facilities are available at Hecla; all other buildings are below standard.

Pierre: School buildings are adequate and a survey team has been used to help with long-term planning. An addition to the high school will provide for the peak enrollment in 1975.

Rapid City: School buildings are needed but the last bond issue effort on November 16, 1971 was defeated.

Selby: There is adequate space for the enrollment. The high school is old and requires annual remodeling.

Sioux Falls: There are two high schools, one built in 1965 and an older one which has been extensively renovated. One of four junior high buildings in new and excellent, the other three need additions for special facilities. Five elementary schools are quite old and should be retired or completely renovated soon. The other sixteen elementary buildings are good but many need special area additions. Architects presently are hired for a new elementary school and a junior high addition.

Waubay: The facilities are generally inadequate and in some areas totally unfit for classes. All of the eight buildings used to house the school's program have a low rating from the State Fire Marshal.

Wood: The district operates six attendance centers. The five rural elementary centers are of frame construction except the six room concrete-stucco school at Witten. The K-12 center at Wood uses a community gymnasium-auditorium for physical education. Two wood structures adjacent to the high school are used for music, Headstart, Title I remedial programs, and kitchen-lunchroom. A quonset hut is used for industrial arts. There is no indication of lack of classroom space.

An assessment of the above reports indicates that about one-half of the districts have school building construction needs. Five of the districts, Brandon Valley, Hill City, Jefferson, North Brown, and Waubay, might be described as having critical needs. The data from Table 11 showed that neither Waubay or North Brown have added new instruction facilities since 1953.

The reports indicate that in general the larger communities have had active building programs for schools that have provided facilities at an acceptable rate. Major problem areas exist in many rural areas,

especially those with stable or declining enrollments, and in growing enrollment districts usually located near the larger cities.

State Enrollment Projections

Long-range planning to meet school building construction needs is necessary for sound decisions. Basic to such planning are enrollment projections, a highly technical undertaking founded on many types of data. It is beyond the scope of this report to make detailed projections; however, the results of previous studies and recent data from the Bureau of the Census provided some insights concerning future school building construction needs.

School Enrollments

In 1968 a comprehensive study of education in South Dakota was concluded.[12] The study included enrollment projections for grades 1-12 of the public schools by county and in total through 1977-78. The projections indicated yearly totals as shown in Table 12. The trend in the four years of actual enrollments shown in the data of Table 12 is a much slower decrease than projected. The actual enrollment reported for 1971-72 was 160,283 or slightly over a six percent greater number of students than expected. Such a variance from the projections could mean a substantial change in the variables that determine enrollments. It would seem imperative that the "1968 Study" be updated and the implications studied carefully. The predicted rapid decline in enrollments from the "1968 Study" projections would indicate a decreasing need for new school buildings on a statewide basis if they are accurate.

TABLE 12. Actual and Projected Enrollments for Grades 1-12 of the Public Schools of South Dakota, 1968-69 through 1977-78

Year	Actual Enrollment	Projected Enrollment
1968-69	162,393	162,800
1969-70	161,454	160,119
1970-71	161,920	155,987
1971-72	160,283	151,127
1972-73	---	145,458
1973-74	---	139,310
1974-75	---	133,692
1975-76	---	129,032
1976-77	---	125,161
1977-78	---	121,716

SOURCE: See footnote 11 and from the Educational Statistics Digest, 1968-69 through 1971-72 of the S.D.I.

Impact of Migration

State total enrollment trends can be deceiving as a measure of school facility needs. When people move, they leave usable school buildings behind and create new needs where they settle. The reasons for migration are typically economic. While moving may satisfy personal needs, it often creates new problems for local government. When needs, such as school facilities, are locally financed, it is sometimes difficult for the system to quickly provide them.

The 1970 Bureau of the Census population studies for South Dakota provided statistical evidence of economic area migration between 1965 and 1970. The outline map on the following page shows the five economic areas designated for South Dakota. In Table 13 are presented the data for migration patterns for these areas.

Data in Table 13 show a net loss in population in every economic area of the State between 1965 and 1970. Net losses were greatest in the western and central areas. The inter-area migration data is indicative of the level of movement but does not provide information on intra-area population changes. However, it is probable that population movement within the economic areas was as great as between areas. Any accurate estimate of long-term school building needs will require continuous study of migration trends both at the State and local level.

The amount of migration shown by data in Table 13 portrays the ease with which people change locale in our society. This practice lends further support to the concept of a broad based responsibility for providing public services, including school facilities.

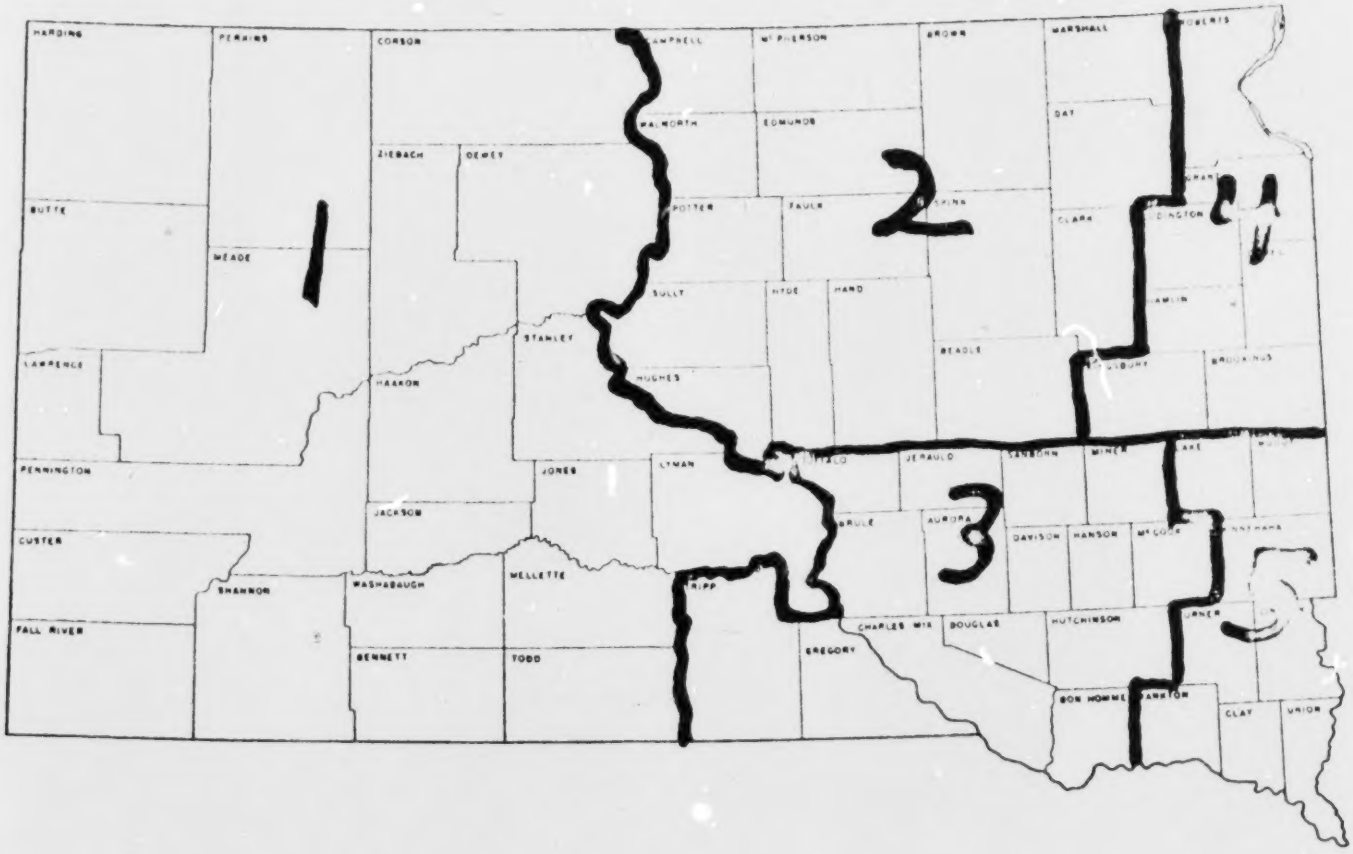
TABLE 13. Migration in the U.S. Bureau of the Census Economic Areas of South Dakota, by Sex, Between 1965 and 1970.*

Area	Male		Female		Total
	Into	From	Into	From	
1	14,557	20,528	12,189	20,120	-13,902
2	6,984	12,795	7,740	12,534	-10,605
3	4,032	8,812	3,821	9,307	-10,266
4	6,189	7,533	5,579	7,345	- 3,110
5	12,578	15,567	13,057	15,750	- 5,682
Total					-43,565

SOURCE: U.S. Bureau of the Census Population Study, Table 2, 1970.

* Data is based on 15 percent sample.

SOUTH DAKOTA



CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY

Conclusions

Major conclusions from findings contained in this study served as a basis for recommendations for financing school building construction in South Dakota.

1. The present system of financing school building construction in South Dakota, through constitutionally limited, super-majority approved local bond issues, or limited local pay-as-you-go levies, is not equitable either in terms of meeting needs or level of tax burden.

2. Statewide aggregate statistics do not indicate the wide range in school building needs, tax effort, and tax base which exist in the various school districts.

3. South Dakota has adequate resources to finance needed school building construction, but not all of the school districts share this capacity.

4. The prevalence of pay-as-you-go instead of long-term debt programs is a deterrent to meeting school building construction needs.

5. Unequal educational opportunity in South Dakota is fostered by inadequate school buildings in some districts. Students in small-town, low-enrollment districts are most handicapped by the existing programs for financing school building construction.

6. While efforts in the State Department of Instruction to gather and analyze data have been commendable, the results fall short of what is needed to ascertain properly the inadequacies of and future needs for school building facilities in the State.

7. Economic and educational opportunity are both factors in migration patterns. Since these two factors are not independent of each other, the economy can be positively influenced by a stronger State role in education, including school building construction.

Recommendations

1. At the first opportunity, the constitutional ten percent debt limitation on school districts should be rescinded. It has no practical value and would provide a harmful barrier if a true need existed for debt beyond ten percent.

2. Additional staff time in the State Department of Public Instruction should be allotted to studies of school building construction needs. The present regulations concerning needed reports from school

districts should be given the force of law with appropriate penalties for failure to comply.

3. A study should be sponsored by the State to determine the current and projected needs for school building construction and to examine the factors that cause people to migrate.

4. The feasibility of reorganizing school districts that have extremely low enrollments and/or an inadequate tax base into more viable units should be studied.

5. The State government should develop a deeper sense of responsibility for public education and a better understanding of the importance of school facilities to educational opportunity.

6. A specific recommendation for State action is based upon two model programs developed in the report of the National Capital Outlay Study,[13] a component of the National Educational Finance Project. The two selected programs feature variable grants computed on the basis of state recognized project costs, and a debt service grant program that recognizes prior effort for school buildings.[14] The salient features of the two model programs and how they might be coordinated to totally serve South Dakota are as follows.

Variable Grants for New Construction. This program would operate for approved building projects in much the same manner as equalization funds are distributed to school districts. Districts that wished to spend beyond that amount approved by the State would be responsible for the additional costs. The immediate obligation of the State would be to match the non-debt funds provided by the district in the appropriate ratio. Borrowed funds used by the district would be shared through the debt service program to be explained later.

Major advantages of this plan are:

a. A substantial amount of fiscal responsibility would remain at the local level.

b. The incentive feature of state aid for school buildings would encourage effort in local districts.

c. The State would have a control feature on the quality and location of school buildings which would contribute to efficient district organization.

d. Local property tax relief would be possible through the use of equalization grants. Since school buildings are a vital part of educational opportunity, there is a strong rationale for state aid to building projects to be in the same proportion as that which is given for current operation expenses.

Negative features of the variable grant plan include the possibility that even with state aid a district might have to acquire an excessive debt. A second concern has to be the substantial amount of funds the State would have to provide. South Dakota's present State tax system would require revision to meet this burden but this seems to be a reasonable exchange for an equalization program on local property taxes for school buildings.

Equalized Grants for Debt Service. Since the variable grants recommended in the previous section applied only to non-debt funds for new construction, there is need to recognize existing and new debt programs for school buildings. A debt service grant program is recommended which would provide funds to aid districts in meeting bond and interest payments for approved or existing buildings. Guidelines would need to be applied to existing buildings to determine what portion of their cost would have been originally approved. The State would participate only in payment of the approved portion of the unpaid balance.

Since the outstanding bonded debt for all school districts was only 40 million dollars in 1971-72, the annual grants for existing debt service would not be a major burden on the State budget.

Important advantages of this companion program to the variable grant plan are:

a. The resistance of the people to debt programs need not be violated since the grant concept applies to both borrowed and cash funds.

b. Equalization is a feature of this program as it was in the variable grant program recommendation.

c. Prior effort to provide buildings is recognized.

7. A recommended supplement to the above program would be for the State to play a stronger role in helping school districts borrow funds. Possible aids would be to establish a State bonding authority which would purchase or supervise the sale of district bonds. A simple but effective aid is to legally guarantee the debt service payments on bonds by having the State meet the obligation from any defaulting district's state aid. A third and more controversial aid for economical borrowing would be to create a State funded revolving loan fund to serve those districts that might be forced to pay excessive interest rates on bond sales.

In terms of South Dakota's future economic and cultural growth, it may well be that these are crucial times. The concept of localism for education or, "its not our problem" attitude by state government, must be foregone. South Dakota should accept its rightful role of leadership and responsibility for aiding and encouraging needed school building construction. Such action helps equalize educational opportunity and creates an environment conducive to people and industry.

FOOTNOTES

[1]J. B. Pearson and E. Fuller, eds., Education in the States: Historical Development and Outlook (Washington: National Education Association, 1969), p. 1148.

[2]Ibid.

[3]Ibid., p. 1149.

[4]Ibid.

[5]Ibid., p. 1156.

[6]Ibid., p. 1157.

[7]W. M. Barr, et. al., Financing Public Elementary and Secondary School Facilities in the United States (Bloomington, Indiana: National Educational Finance Project, Special Study No. 7, 1970), p. 352.

[8]Ibid.

[9]South Dakota Compiled Laws, Vol. 5, 1972 Pocket Supplement, § 13-16-6.

[10]H.B. NO. 846 of the 1973 Legislative Assembly. An act to amend § 13-16-6.

[11]Ibid.

[12]Education: South Dakota, A Statewide Study of the Public Schools, Bureau of Field Studies and Surveys, University of Minnesota, 1969, p. 296.

[13]Barr, op. cit., pp. 254-263.

[14]See Appendix.

AN ANALYSIS AND ASSESSMENT OF SOUTH DAKOTA'S PUPIL TRANSPORTATION PROGRAM*

The general emphasis of this study centers on transportation program efficiency, the distribution of transportation support, provisions for serving clientele needs and overall program structure. The report contains a topical presentation of the background and philosophy of the program, magnitude of the program, pupil transportation expenditures, description of the program, program and cost comparisons, and conclusions and recommendations for program changes. Included in the study is the present status of school transportation and its funding as well as recommendations for alternative methods of funding transportation programs.

Background and Philosophy of the State Transportation Program

The residents of South Dakota are engaged primarily in the production of agricultural goods and services. There are broad expanses of land used for the purpose of raising cattle or for the production of grain. Population density in South Dakota, therefore, is one of the lowest in the United States. Except for the southeastern region, and to some extent the southwestern region, the State is rather sparsely populated.

These conditions influence the nature of transportation problems which local school districts provide for their pupils. The density of the transported student population is quite low in most school districts, whatever measure of density is used. Many regular bus routes extend a considerable number of miles over the geographic region the school district encompasses. There are several instances where regular district transportation cannot be provided for pupils living great distances from attendance centers because it would be uneconomical or because weather conditions will not allow bus passage. Where regular transportation services cannot be provided, parents or guardians are often required to transport their own children or pupils must board close to a school attendance center or close to a regular bus route.

On the basis of past research on pupil transportation programs and a knowledge of the conditions which affect transportation services in South Dakota, some tentative hypotheses could be made relative to program costs. A high density of transported pupil population suggests the hypothesis that average per pupil costs will be low and average costs per mile will be high relative to other constant factors. Since South Dakota's density of transported pupil population is low (sparse), the logical pre-

*A Study performed by Lloyd E. Frohreich, University of Wisconsin, Madison.

diction would be that its average per pupil cost would be high and its average cost per mile would be low relative to other states. An extensive discussion of these variables and data gathered on standardized costs will be presented later in this report.

Responsibility for administration of local programs and a determination of pupil transportation services in South Dakota largely resides with individual school districts. The State-School District relationship is characterized by the autonomy of local districts which is evident in most major areas of policy and administration of local pupil transportation services. Policies regarding the degree and level of service to be offered within the district, eligibility rules, provisions for regular routes, and bus usage are made primarily by local school boards. Other matters relating to the provision and procurement of equipment and supplies, the employment of transportation personnel and the management of the district transportation budget fall into the realm of local jurisdiction but within state guidelines.

As an example, the State mandates no provisions for the transportation of pupils who are at a higher level than the eighth grade. If local school districts wish to provide transportation services for pupils in grades 9-12, they may do so and such services will be reimbursed roughly on the same basis as services to students in grades K-8. The rationale behind this policy is that compulsory education extends through age 14 in South Dakota, therefore, the establishment of education and any decisions on services related to education beyond age 14 should be relegated to the local district.

The State, on the other hand, provides funds and establishes broad standards and minimum qualifications under which transportation services may be provided at the local district level. The provision of funds on a reimbursement basis to local school districts includes the approval, disbursement and adjustment function.

The philosophy of the State regarding its relationshp with local school districts on matters concerning transportation services is embodied in the following statement found in the chapter on "School Transportation Services" in the Administrative Manual for South Dakota Schools and published by the State Department of Public Instruction.

> The State Board of Education has not established specific rules and regulations concerning the transportation services for school children. Rather the jurisdiction and application of such matters has been left to the school boards to administer their own programs within the framework established by the Legislature. The school board should adopt a policy covering the transportation services to be provided all pupils.

Approximately 19.6 million or 42.2 percent of the nation's children are transported to and from school by bus. The cost of busing (including replacement of vehicles) has been estimated roughly to cost $1.5 billion per year thus placing school bus operations as a major economic consideration among school district services. These figures make school busing the greatest single transportation system in the country.

As the history and statistics of busing indicate, the greatest demand for busing has come from the rural states, such as South Dakota, where population is sparse and the consolidated school district is typical. There are many states which transport almost 100 percent of those rural pupils who meet distance standards set by the state. The state pupil transportation program and its economic impact both on the taxpayer and on those it services require that it be structured and programmed to meet clientele needs and that it be both economical and efficient in providing services. The foregoing remarks set the framework within which this study was completed and the direction of recommendations for improving the South Dakota transportation program.

Present and Projected Magnitude of the Transportation Program

One component in this study was an examination of the past and present magnitude of the pupil transportation program with the intent of using trends as a portent of future magnitude and need. Therefore, evidence will be presented indicating the past and present numbers of pupils transported, students transported as a percentage of all students enrolled, past and current transportation expenditures and changes over the past four years.

Pupils Transported

Total public school children transported by both public and private carriers over the most recent four years are shown in Table 1. Ridership increased 5.47 percent over 1970-71. Total ridership increased 28.4 percent (+12,128) between 1968-69 and 1971-72. The major portion of the increase in riders was by private carrier which increased ridership 46.77 percent (+6,384) as contrasted with an increase of 19.79 percent (+5,744) in pupils transported by district owned vehicles.

To present an accurate picture of the relationship between pupils transported and pupils enrolled in the public schools of the State, the enrollment pattern over the last four years is presented in Table 2. The table also shows the percentage transported pupils is of total state public school enrollment each year.

TABLE 1. Total Public School Children Transported By Public and Private Carriers, 1968-69 Through 1971-72

Carrier	1968-69	1969-70	1970-71	1971-72
Public	29,019	31,709	33,781	34,763
Private	13,650	15,541	18,176	20,034
Total	42,669	47,250	51,957	54,797
% increase over previous year	12.04%	10.74%	9.96%	5.47%

TABLE 2. Public School Enrollment and Number of Riders as a Percentage of Enrollment, 1968-69 Through 1971-72

	1968-69	1969-70	1970-71	1971-72
Total enrollment	173,791	172,616	173,006	171,636
% increase or decrease over previous year	-1.06%	-.68%	.23%	-.79%
Ridership as % of Total Enrollment	24.55%	27.37%	30.03%	31.92%

The figures in Table 2 reveal a pattern that is rather typical of the relationship between enrollment and ridership in many states. Several states are experiencing a stabilization or decline in pupil enrollment while the magnitude and percentage of riders to enrollment continues to rise. These data are evidence that this phenomenon is occurring in South Dakota. States are reducing mileage limitations and increasing the population base of students who are eligible for bus transportation. The addition of private and parochial school pupils to eligibility lists and the increased use of school buses to promote integration also have caused ridership to increase.

How long the trend of increases in the percentage of transported pupils in South Dakota will continue cannot be determined with the present information and data. It may be assumed, however, that if qualifications for ridership lessen (i.e., mileage limits are reduced) or if more students continue to qualify under the umbrella of school board policy relative to the transportation of high school students or private school students, the percentage of enrolled students who are eligible for transportation will place an increasing load on the transportation budget of school districts and the State.

Pupil Transportation Projections

With the data on students transported as a percentage of enrollment and with some tentative judgments on projected enrollments, some tenuous projections were made of the number of pupils who will need transportation in the immediate years ahead.

TABLE 3. Projected Public School Enrollments and Number of Transported Pupils, 1973-74 Through 1976-77

	1973-74	1974-75	1975-76	1976-77
Projected Enrollments[1]	168,221	166,539	164,874	163,226
Projected Ridership[2]	57,061	58,155	59,223	60,263

[1]Projected Enrollments are Based on a One Percent Decline in Enrollment Each Year

[2]Projected Ridership is Based on a One Percentage Point Per Year Increase in the Percentage of Riders to Enrollment

Making some very weak assumptions about the trend in enrollments over the next four years, the data in Table 3 are presented with the expressed cautions in mind. It was anticipated that enrollments would decline approximately one percent per year over the next four years. With the drastic reverse in the birth rate in this country and in South Dakota, the projected decline in enrollment may be too conservative. Certainly no one believed this country would reach a state of zero population growth by 1973, but the facts are irrefutable. If further birth rate declines are experienced in South Dakota, these projections will be of little value.

The projections on ridership as a percentage of total enrollment are based on a one percentage point increase each year. The rationale for this percentage was that school boards will continue to increase the eligibility of more students as further consolidations take place. There is no assumption of reduced mileage limitations built into these projections. If the State should decide to reduce mileage limitations from the present 2 1/2 miles for either elementary or high school pupils, then these projections are low. Other changes in State legislation, State policies or local school district policies would alter the projections. The Transportation Office of the Department of Public Instruction should watch these factors closely as it plans future operations and budgets.

Both state and local public school officials are in a somewhat unique position; this is the first period in history during which public school officials have not had to be concerned incessantly with increasing enrollments and the attendant problems associated with rising birth rates. Stabilized birth rates should bring on an era in which schools can plan, implement and allocate resources to programs on the basis of equity, merit, benefit, and equal opportunity without expending scarce and valuable time on recurring building programs or on other decisions related to the demands of higher enrollments.

Pupil Transportation Costs

An important dimension of the magnitude of a pupil transportation program is its cost. The total pupil transportation costs incurred by the school districts in South Dakota broken down by type of school district and by type of ownership for the years 1968-69 through 1971-72 are shown in Table 4. Certain local costs are not shown and are not included in these data. Those costs in both Common and Independent School Districts associated with the transportation of pupils on regular approved routes are the only costs shown. The illustrated cost data depend on the determination of local school boards as to what constitutes a regular approved bus route. If the route is extracurricular related and does not fit the school board's policy of a regular approved route, these costs are not included. The State only reimburses that share of local district costs which the school board has designated as relating to a regular route.

The rate of increase in total pupil transportation costs has declined in more recent years; however, total school district costs for transporting pupils over board--approved regular routes increased approximately $1.86 million or 44.1 percent during the last four years. Total costs for contractual operations increased $870,313 or 52.7 percent while total costs for district owned operations increased $993,652 or 38.5 percent over the same period. A trend toward a greater reliance on contract operations in South Dakota over the last four years is evident from these data.

TABLE 4. Public Pupil Transportation Costs, by Type of School District, 1968-69 Through 1971-72

Type of School District	1968-69		1969-70		1970-71		1971-72	
	Contract[1]	District[2] Owned	Contract	District Owned	Contract	District Owned	Contract	District Owned
Independent	$1,514,994	$2,482,449	$1,862,192	$2,853,137	$2,295,295	$3,277,692	$2,493,560	$3,529,978
Common	134,553	95,729	53,644	63,670	27,959	36,282	25,963	33,878
Total	1,650,739	$2,578,178	1,915,320	2,321,983	2,321,983	3,314,271	2,521,052	3,571,830
Yearly Total	$4,228,917		$4,833,004		$5,636,254		$6,092,882	
% Increase Over Previous Year			14.28%		16.62%		8.10%	

[1]Contracted costs are those incurred through school district contracts with a private firm or individual for transporting pupils on regular routes approved by local school boards.

[2]District owned vehicles costs are those incurred through the operation of district owned vehicles fortransporting pupils on regular routes approved by local school boards. Transportation costs associated with certain other extracurricular actives not approved by the school board for regular routes are not included.

When the rate of increase in total costs is compared with the rate of increase in ridership of public school students, total costs increased faster than ridership increases over the four year period, but not markedly faster. The data in Table 5 reveal that total costs increased 28.4 percent and number of pupils transported increased 44.1 percent over the same time period. Under the assumption of a five percent per year rise in prices the differential of 15.7 percentage points may be explained easily by the inflation factor.

TABLE 5. Public Transportation Costs Compared With Pupils Transported, 1968-69 Through 1971-72

	1968-69	1969-70	1970-71	1971-72
Total Costs	$4,228,917	$4,833,004	$5,636,254	$6,092,882
% Increase Over Previous Year	---	14.28%	16.62%	8.10%
Number Transported	42,669	47,250	51,957	54,797
% Increase Over Previous Year	12.04%	10.74%	9.96%	5.47%

Data on the number of private and parochial pupils transported in public vehicles at public expense were not available; however, transportation of these pupils is not extensive in South Dakota.

The maximum annual state transportation aid to local school districts was fixed at $3 million by the State Legislature in 1971, therefore, data showing a trend on changes in state transportation expenditures would be fruitless.

Further unit cost data standardized for comparison purposes will be presented later in this report.

Description of the Program

The South Dakota Department of Public Instruction-Transportation Division receives a yearly transportation report from each school district in the State regarding the number of pupils transported, transportation costs and mileage data. These data are used to calculate reimbursement

costs distributed to local school districts the following school year. Essentially, State reimbursement is based on costs for any of the following local programs.

1. The school district may operate district owned buses and be reimbursed by the State in accordance with the distribution formula for district operations.

2. The school district may contract transportation services with the private sector and be reimbursed by the State in accordance with the distribution formula.

3. School districts may enter into an agreement with parents for transporting children when either district or contracted services are not available. The school district is reimbursed partially for these costs on the basis of a specified formula.

4. School districts may enter into an agreement with parents for room and board expenses when either bus service or parent transportation is not practicable. The school district is reimbursed partially for these costs according to a specified formula.

Provisions and details for each of these options will be discussed in the ensuing paragraphs. It should be noted that State reimbursement is based on 50 percent of the net costs of operation with a ceiling of $3 million available from the State for all school district transportation costs. Thus, if 50 percent of the total net costs of operation in the State exceeds $3 million, each school district will receive a prorata share of the $3 million.

Reimbursement for District-Owned Bus Operations

The State formula reimbursing school districts operating district owned vehicles may be expressed in the following words.

> State transportation aid for school district owned bus operations equals 50 percent [(District costs minus deductible receipts) times the ratio of miles traveled for school purposes to total miles traveled], provided the state aid does not exceed 18 cents per mile.

There are several components of the formula which need defining. District costs include costs for the following items.

1. Salaries of bus drivers and those school personnel connected directly with the transportation program.

2. Vehicle depreciation per year equal to one/eighth of the vehicle's original cost for a maximum of eight years.

3. The total cost of a school district's transportation insurance premiums with no limitations.

4. Vehicle operating, maintenance and repair costs such as gas, lubricants, tires and repair parts - district or private operations.

5. The costs of renting garage facilities from private enterprises.

Another variable in the formula is deductible receipts which are receipts other than State transportation aid which are used to defray the costs of a district transportation program, i.e., receipts from parents, other districts, and federal programs. The purpose of deducting receipts from total operating costs is to prevent State reimbursements for costs already covered by another receipt program.

The ratio of bus miles traveled for school purposes to total miles traveled for all purposes is a variable which is intended to allow only the calculation of costs for transportation mileage approved by local school boards. Mileage for school purposes is defined as those miles traveled on a regular basis to transport pupils to school and back home and to transport students between attendance centers. The mileage ratio for all district-owned vehicles in the State in 1971-72 was .895 (11,859,206/13,254,702). The ratio for all privately-owned vehicles in the State in 1972-73 was .950 (6,234,878/6,566,290).

Students eligible for transportation under the provisions of State Statutes and the reimbursement formula include the following.

1. Local school district must provide transportation for all elementary pupils (grades K-8) living 2 1/2 miles or more from the nearest attendance center.

2. At the discretion of the local school board, transportation services may be provided for students in grades 9-12 living in excess of 2 1/2 miles from the attendance center. Such service is not mandatory, but if provided, the costs may be counted for state aid purposes. Approximately 90 percent of the local school districts provide transportation service for high school students.

3. At the discretion of the local school board, transportation services may be provided for students attending non-public schools within the district. Such service is not mandatory, but if provided, the costs may be counted for State aid purposes. There are no provisions for the State reimbursement of non-public schools that provide their own transportation service.

Reimbursement for Contracted Bus Operations

Local school districts may contract with private concerns to provide bus service for those students who qualify and were identified in the preceding section of this report. The State formula for reimbursing school districts is the same as the one used for reimbursing local districts which operate district-owned buses and was defined in the previous section. The total amount of the contract with private carriers constitutes the cost of operation which school districts incorporate into their total costs. State statutes mandate that purchases and services which exceed $1500 for any one service or item must be placed on open bid. Thus, most school districts in South Dakota are required to place contracts for transportation services and the purchase of buses on open bid.

Reimbursement for Transportation Services Provided by Parents

School districts may enter into an agreement with parents for transporting children when either district or contracted services are not available. Mileage paid to parents by local districts is mandated when local district service is not available for the transportation of students below the ninth grade and is at the discretion of the school board for students in high school.

Reimbursement by local districts to parents is in the amount of 8 cents per mile for each mile in excess of 2 1/2 miles each way in transporting the child to and from school, provided that no travel allowance shall exceed the limit of seven hundred dollars per family. State reimbursement of these costs is provided at the rate of 50 percent of the approved costs for reimbursing parents. Thus, if it were determined that a family would receive $500 from the school district for transporting their children to school, the State would reimburse the district in the amount of $250.

Other provisions for the payment of mileage to parents and families include the following:

1. If a child lives further than 2 1/2 miles from the bus stop of a regular route, the parent must be paid for any mileage in excess of the 2 1/2 miles necessary to transport the student to and from the regular bus stop.

2. A family cannot be paid mileage for attending a parochial school but mileage can be paid for children who are dual enrolled in a public school and a parochial school.

3. Mileage cannot be paid to families for extra trips which the School Board does not deem necessary. The School Board has the discretion to determine the number of trips which are necessary and mileage shall be paid.

Reimbursing Families for Room and Board
in Lieu of Transportation Services

Local school districts may reimburse families for room and board costs which are necessary because of the absence of district transportation services and because family provision for transportation services is either impossible or impractical. Again, provision for transportation services or room and board is mandatory for students in grades K-8 but at the discretion of the local school board for high school students.

The rate of reimbursement to families for room and board costs is determined by the school board. There is no statutory limit on the amount a school board may reimburse a family for room and board costs. State reimbursement of local districts amounts to 50 percent of the board approved costs for providing room and board.

Other Transportation Program Provisions

1. One school district may contract with another school district to furnish bus service but may use only district-owned vehicles.

2. A school district may transport non-resident pupils to district facilities provided charges for such transportation are levied against the district in which the pupil resides. The minimum costs charged for transporting non-resident pupils shall be equal to the average adjusted transportation per pupil cost two years prior. For example, the minimum charge for transporting non-resident pupils in 1972-73 was $98.00 per pupil. This amount was based on the average adjusted per pupil cost of $98.11 in South Dakota for district owned vehicles in 1970-71.

3. State reimbursement of local school district transportation costs in any given school year is based on the reimbursement allowances calculated by the State for the previous year. To illustrate, State reimbursement allowances for local costs in 1972-73 will be received by school districts in the 1973-74 school year.

4. The school board of the school district, after the assignment of any exceptional child having school residence within the district, shall provide transportation services. Mileage allowances to families may be made in lieu of district transportation.

5. Local school districts may participate and purchase vehicle tires through a tire bid provided for at the State level.

Bus Driver Qualifications, Vehicle Safety Provisions and Safety Records

South Dakota state law stipulates that operators of school buses must meet certain personal, physical, knowledge and skill requirements before she or he can be licensed to drive a school bus. The minimum and maximum ages a person can be licensed to drive a school bus in South Dakota are 18 and 65, respectively. School bus drivers must secure a medical certificate each year which attests to their physical status. Drivers must pass a knowledge of laws and vehicle skill maniuplation examination which gives them a license good for two years and the year in which issued or a total of three years, depending on when the license is issued. The bus driver's license is issued annually by the county auditor of schools who recently replaced the county superintendent of schools. There are no provisions for school bus driver training courses under the present law.

State law also provides that school buses shall be inspected at least annually by the Division of Highway Patrol which issues a certificate that must be displayed in the vehicle. These inspections are free to public and private owners of school buses.

A bulletin entitled Minimum Standards for the Construction of School Bus Chassis and Bodies in South Dakota is published by the South Dakota Department of Public Instruction. The specifications and minimum standards set forth in this bulletin were adopted by the South Dakota State Board of Education and must be met by every vehicle, new or used. These specifications would appear to meet the letter and intent of the "Standard 17 Requirements" recently prescribed by the Transportation Office of the Federal Government.

School bus accident reports are made to the Consultant for Transportation of the State Department of Public Instruction. Safety records are compiled by the State each year and reported to local school districts. In Table 6 are reported the accident statistics for the years 1968-69 through 1971-72.

TABLE 6. Statistics Related to School Bus Accidents, 1968-69 Through 1971-72

	1968-69	1969-70	1970-71	1971-72
Number of Accidents	52	59	58	54
Total Property Damages	$12,950	$10,968	$ 8,234	$11,316
# of Pupils Injured	16	20	18	20
# of Pupils Fatally Injured	1	0	0	0
# of Pupils Killed	0	1	0	0

The accumulated four-year safety record, according to the figures presented in Table 5, reveals that accidents occurred at the rate of 340 per

100 million miles traveled, property damage occurred at the rate of $66,335 per 100 million bus miles, pupil injuries occurred at the rate of 112.9 per 100 million miles, and pupil fatalities occurred at the rate of 3.05 per 100 million bus miles. These rates are somewhat above the national average rates but not significantly above. Although there appears to be no cause for grave concern, any pupil injury or fatality in a school bus accident is a deleterious matter. Every effort should be made to determine what caused these accidents and steps taken to prevent recurrences. States constantly should be aware of safety records and means of reducing pupil-transportation related accidents.

Other data related to the safety factor of pupil transportation programs consist of comparisons between insurance premiums paid by local school districts and total claims collected on bus transportation accidents. These data and comparisons are shown in Table 7 and reveal that insurance premiums have risen $48,387 or 57.62 percent while total claims collected have been inconsistent from year to year, ranging from $16,624 in 1969-70 to $31,961 in 1970-71.

TABLE 7. Insurance Premiums Paid by School Districts Compared With Total Claims Collected, 1968-69 Through 1971-72

	1968-69	1969-70	1970-71	1971-72
Insurance Premiums Paid	$83,971.70	$97,334.84	$117,675.09	$132,359.07
% Increase Over Previous Year	4.47%	15.91%	20.90%	12.48%
Total Claims Collected	$25,225.14	$16,624.04	$ 31,961.71	$ 20,979.64
% Increase or Decrease Over Previous Year	4.66%	-34.09%	92.26%	-34.36%

Program and Standardized Cost Comparisons

The hazards and inadequacies of generating program and standardized cost comparisons of school transportation systems are multitudinous. There are inadequacies with each system of cost accounting and with the unit cost systems that have been used in the last fifty years. It is difficult to determine exactly what is or should be included in a standardized transportation cost variable that could be used for making comparisons. Are all depreciation, capital outlay, drivers' salaries, maintenance, operating, and insurance costs a part of a unit cost determination? When program costs are

generated do they include all programs such as the transportation of special education pupils, summer session students, kindergarten students, vocational-technical students, and federal program related students? These are complex questions and very few states keep program and cost records adequate enough to provide data for making comparisons.

Standardized Cost Variables

Following are descriptions of the more common standardized cost variables school districts compile and a few of the advantages and disadvantages of each.

Average Cost per Pupil is derived by dividing total transportation costs in a school district or a state by the number of pupils transported. The fallacies of this calculation are that it does not take into consideration the density of population, miles the student is transported, number of school days, or traffic conditions. A comparison of district or state per pupil costs would have to consider each of these factors to make any valid comparison judgments. Per pupil costs generally are going to be more if the density of the transported student population is less, students are transported more miles, traffic congestion is heavy, and the number of school days is greater relative to other transportation programs.

Average Cost Per Mile is derived by dividing the total transportation costs in a school district or state by the number of miles the buses travel in a year. Standard cost comparisons using cost per mile fail to take account of density of population, number of pick-up points, number of students transported, or traffic congestion. Costs per mile are likely to be higher if the density of the transported pupil population is greater, number of pick-up points per mile is greater, and traffic congestions is heavier relative to other transportation programs.

Average Cost Per Day does not consider the number of pupils transported, density of the population, number of pick-up points, or traffic congestion. Cost per day units are likely to be higher if the number of pupils is greater, density of the transported population is greater, number of pick-up points per mile is greater, and traffic congestion is heavier relative to other transportation programs.

Each of these variables has weaknesses but can be made more viable for comparison purposes if the comparison takes into account those factors that influence its cost. Average cost per pupil data may be comparable if one takes into account (holds constant) the factors that influence its magnitude, i.e., number of school days, density of transported population, geographic price levels, etc. One way of holding a factor constant is to include it in the calculation. The cost variable "average per pupil bus mile" standardizes two units on a cost basis--number of pupils and miles transported.

However, this cost unit is so infinitesimal that it seems ludicrous to those analyzing comparisons. By far, the most efficacious means of making comparisons is to gather data on all factors that influence cost and then compare the unit costs in a mode in which factors that impinge on costs are relatively equal or are held constant. Unfortunately, few states compile comprehensive data, thus making comparability a futile exercise. The arguments against gathering data on all relevant transportation factors centers on the expense of such data gathering processes and the utility of the cost units after they are calculated. The latter argument seems a bit out of place in this day and age of accountability, efficiency and economy in government, particularly if it can be shown that the resultant savings will exceed the costs of data compilation and analysis.

In summary then, there are many factors that influence the cost variables used by school districts and states to make comparisons. The following list is presented to indicate those factors that have been mentioned plus other factors that should be given more attention.

Number of school days
Number of pick-up points per mile
Density of transported population
Number of pupils
Number of miles
Travel conditions
Geographic price differentials
Eligibility mileage limits
Number of buses
Number of trips
Bus capacity utilization

Standard Program Units

The program of standardized cost variables is compounded by a lack of comparability among program units. Unit costs cannot be judged adequately when it is not clear which program(s) were included in the cost data. The following transportation programs are examples of how certain programs may be broken out or included in cost figures.

Summer School Program
Regular Program
Kindergarten Program
Special Education Program
Vocational-Technical Education Programs
Federal Programs
Extracurricular Programs

The extent and complexity of each program and the number of different transportation program units will depend on pupil-transportation laws and policies relative to pupil transportation accounting requirements in each state.

The comparability of cost variables is made even more complex when there is lack of agreement on those transportation account variables that

are included in total costs. Listed below are transportation account variables that illustrate another set of factors which muddy the water of transportation cost variable comparability.

- Maintenance Cost
- Operating Costs
- Drivers' Wages
- Aides' Wages
- Supervisors' Wages
- Capital Outlay
- Depreciation Costs
- Debt Retirement-Principal and Interest Costs
- Insurance Costs
- Driver Training Costs
- Inspection Costs
- Licensing Costs

The list is not complete but illustrates standard cost units are not comparable between and among states and school districts unless efforts are made to standardize and control the variables that influence costs.

Cost Comparison Survey

Recognizing the preceding qualifications as limitations of cost comparability, cost data from other states were secured for the purpose of making a few generalizations about South Dakota's transportation costs relative to other states. The survey included essentially those states which are participating in National Educational Finance Project studies. A questionnaire was distributed which requested the transportation divisions in each state to report three cost figures: average cost per pupil, average cost per mile, and average cost per pupil per mile. Each state was requested to provide cost data for both public owned and private owned vehicles if such costs were available. In addition, it was requested that the respondent indicate which programs and account variables were included in the cost data.

The information and data secured from the states were rather sporadic and incomplete. Few states kept the necessary records to provide all cost unit data that were requested. Those that replied and supplied cost data did not include an adequate explanation of what programs and account factors were included in the unit cost calculations.

Table 8 represents an attempt to present the cost data that were returned from the states sampled. The footnotes to this table include description of a state's program as they were supplied from each state.

Program and Cost Descriptions to Accompany Table

A) The daily cost per pupil and the cost per pupil are based on 1970-71 figures and include the total cost of operation, including insurance, depreciation of school buses plus maintenance equipment. In this state approximately 92 percent of the buses are district owned and operated.

   a. Public and private owned equipment combined
   b. Cost per mile for regular program
   c. Cost per mile including the regular program, passenger car miles, and activity trips

TABLE 8. Pupil Transportation Costs in Selected States

State and Date Year	Cost Per Pupil Per Year		Cost Per Mile	
A	$50.04[a]		$.3878[b]	
1970-71			.4379[c]	
B	$38.33[a]	$47.46[d]	$.419[a]	$.52[d]
1971-72	51.39[b]		.669[b]	
	43.82[c]	51.39[e]	.480[f]	.669[e]
C				
1970-71	$63.03[a]		$.52[b]	
1971-72	57.95[b]			
D	$52.25		$.273	
1971-72				
E	$44.85		$.22	
1971-72				
F	$41.28		$.29	
1971-72				
G	$68.62		$.644	
1971-72	RANGE $52-$112		RANGE $.44-$.77	
H	$48.41[a] RANGE $39-$351		$.68[a] RANGE $.45-$1.62	
1969-70	75.60[b] RANGE $44-$200		1.24[b] RANGE $.49-$2.71	
I	$70.18[a]		$.65[a]	
1970-71	91.40[b]		$.90[b]	
J	$71.89[a]			
1971-72	65.07[b]			
	71.17[c]			
South Dakota	$102.75[a]		$.336[c]	
1971-72	126.47[b]		.301[d]	
			.404[e]	

B) The costs shown are only for regular program routes. The cost of special trips, Federal program transportation, and summer school are not included. Approximately 99 percent of all buses are district owned and operated.

a. Public owned without capital outlay and replacement costs included
b. Private owned without capital outlay and replacement costs included
c. Combined costs without capital outlay and replacement costs included
d. Public owned with capital outlay and replacement costs included
e. Private owned with capital outlay and replacement costs included
f. Combined public and private owned with replacement costs included

C) These costs include vehicle purchases. It is not known whether the costs are for regular programs alone or whether other program costs are included. Approximately 30 percent of the buses are publicly owned in this state.

a. Cost for 1971-72
b. Cost for 1970-71

D) The costs shown are only those costs approved by a state formula and paid by the state. Local districts may have to supplement these amounts. The costs shown are for the regular transportation program only. Roughly 98 percent of the buses in this state are publicly owned.

E) The pupil transportation cost per pupil includes the bus purchase price and the drivers' pay. What other costs are included is not known. The cost per mile does not include drivers' pay. Over 90 percent of the buses in this state are owned by the school districts.

F) The data for this state include all transportation costs with the exception of bus depreciation and purchase costs. Nearly all buses in this state are publicly owned.

G) This state almost totally supports the transportation costs of local districts. The costs shown include the cost of new equipment, capital facilities, handicapped transportation and nonpublic transportation. Roughly 43 percent of the buses are publicly owned.

H) The costs for this state include all transportation costs including capital outlay and a $.07 per mile depreciation factor for district owned buses. Approximately 33 percent of the buses are publicly owned. Deadhead mileage was not included in the mileage calculations. The 1969-70 figures make comparisons with other states difficult.

a. Denotes cost on district owned equipment
b. Denotes costs on contract equipment

I) Costs include all pupils transported--handicapped, elementary, secondary, those approved who live less than 1.5 miles from school, and extra-curricular trip costs. Costs of one of the state's metropolitan school districts was not included in the calculations. Also, the costs do not include bus purchases or debt services. Approximately 53 percent of the state's vehicles are publicly owned.

a. Denotes costs related to public-owned vehicles
b. Denotes costs related to private-owned vehicles

J) Costs include all pupils transported--handicapped, vocational-technical, regular, and special. Contract and public owned vehicle costs are included. All costs on leasing, capital outlay, depreciation, and investment allowances on contract vehicles, insurance, administration, operation, and maintenance drivers' salaries, but storage and physical exams are included. Costs for extra-curricular trips are not included and are borne by local districts.

a. Denotes costs for public transportation including contracted services
b. Denotes costs for nonpublic transportation
c. Denotes the combined costs for public and nonpublic transportation

South Dakota - Costs include pupils transported on regular routes to residential schools and back home. Contract and public owned vehicle costs are broken out. Items used for determining transportation costs include salaries, depreciation, insurance, operating expenses, maintenance expenses and rental of garage facilities. An extended explanation of the program was included earlier in this report.

a. Denotes per pupil cost for district owned vehicles for regular routes
b. Denotes per pupil cost for contracted vehicles for regular routes
c. Combined cost per mile for district owned and contract vehicles
d. Cost per mile for district owned vehicles
e. Cost per mile for contract vehicles

Any conclusions drawn from the comparisons of data presented in Table 8 would have to be very general. Comparisons between states virtually are impossible due to the lack of a standardized method of cost accounting for transportation programs. For example, it would appear that South Dakota's average per pupil costs are in excess of those in other states. Except for two or three states, however, the average per pupil costs are not comparable to South Dakota's because most states do not include bus depreciation, administration, or insurance in their cost figures. Average costs per pupil may not be an adequate basis upon which to compare South Dakota with other

states for the reasons cited earlier relative to density of population. The average costs per mile may be a more appropriate basis to make comparisons. The states which appear to be similar to South Dakota in the methods they use to derive cost per mile are states B, C, and G. Comparisons with each of these states using average cost per mile reveal that South Dakota school districts are spending less per mile on the average to operate their buses than any of the other comparable states.

The one conclusion that may be drawn from these data is that the costs of school district owned and operated vehicles appear to be less than the costs incurred through contracting for privately owned vehicles. However, one must qualify such a statement; many of the standardized cost variables (average cost per pupil or per mile) do not include purchase costs, depreciation or any profit figure for district owned vehicles. The fact that school districts are exempt from many costs (taxes, licenses, safety inspections, medical exams, etc.) which private contractors incur, may add 5 to 10 percent to school district average cost figures. It is probably that if taxes and other costs incurred by the state were added to district-owned equipment costs, the standardized costs for privately-owned equipment would be very similar to those of the local district. The question remains though of whether the extra costs for profit, taxes, higher prices, etc., created by the endorsement of private contracts, are an advantage to the state or the taxpayers who must pay the extra costs to finance privately-owned bus transportation operation.

Comparisons of standardized costs of operation between district-owned vehicles and contracted vehicles over the last four years are shown in Table 9. The state average cost per pupil for district owned vehicles rose from $88.84 in 1968-69 to $102.75 in 1971-72, a 15.7 percent increase. Cost per pupil for contract operations rose from $120.92 in 1968-69 to $126.47 in 1971-72, a 4.6 percent increase. Average cost per pupil mile traveled rose 12.3 percent for district-owned vehicles and 8.3 percent for contract vehicles over the same four year time span. These percentage increases are most startling in light of cost increases and inflation, as neither standardized costs for district or contract operations have kept pace with recent increases in price indices.

The gap between average cost per pupil for district operations and contract operations which was $32.08 in 1968-69 (+36.1%) has narrowed to $23.72 (+23.1%) in 1972-73. Likewise, the gap between average cost per mile traveled for district and contract operations has gone from $.105 (+39.2%) in 1968-69 to $.103 (+34.2%) in 1971-72. The difference between standardized costs on district-owned vehicles and standardized costs on contract vehicles is still rather extensive in light of the differences noted in other states and shown in Table 9.

The magnitude of figures showing the number of pupils transported by district or contract vehicles was presented in Table 1. To reveal the magnitude of the number of public owned vehicles versus the number of privately owned vehicles under contract and the trend in ownership in the state, the data in Table 10 are presented.

TABLE 9. Public Pupil Standardized Costs of Operation, 1968-69 Through 1971-72

Standardized[1] Cost	1968-69		1969-70		1970-71		1971-72	
	Contract	District Owned	Contract	District Owned	Contract	District Owned	Contract	District Owned
Average Cost Per Pupil	$120.92	$88.84	$123.24	$92.02	$127.75	$98.11	$126.47	$102.95
Average Cost Per Mile Traveled	.373	.268	.360	.273	.382	.292	.404	.301
% Increase Over Previous Year in Ave. Cost Per Pupil			1.92%	3.58%	3.66%	6.62%	-1.00%	4.73%
% Increase Over Previous Year in Ave. Cost Per Mile Traveled			-3.49%	1.87%	6.39%	6.36%	5.43%	3.08%

1 Each standardized cost is based on total expenditures adjusted to reflect the actual cost of transporting students to and from school. Adjusted costs are derived by multiplying total costs by the ratio of miles to transport students to and from school to the total miles traveled by the bus for all purposes.

TABLE 10. Number of District Owned and Contracted Vehicles Used in Transporting Pupils, 1968-69 Through 1971-72

	1968-69	1969-70	1970-71	1971-72
Public Owned Vehicles	949	831	859	919
% Increase or Decrease Over Previous Year	4.1%	-12.4%	3.4%	7.0%
Privately Owned Vehicles	399	412	495	541
% Increase or Decrease Over Previous Year	2.0%	3.3%	20.1%	9.3%
Ratio of Public Onwed Vehicles to Total	70.4%	66.9%	63.4%	62.9%

The trend over the past four years has been a decline in the percentage district owned vehicles is of the total number of pupil transportation vehicles in the State. Although Table 1 showed that ridership in both public and private carriers increased 28.4 percent between 1968-69 and 1971-72, ridership in contract vehicles has increased 46.7 percent compared to ridership in district owned vehicles which has increased 19.8 percent. The trend appears to have been in the direction of greater reliance on contracting transportation services with private carriers.

Other Cost Relationships

Other cost relationships have been reported in research on school transportation systems in addition to the public versus private ownership comparisons. Generally, school districts in heavily populated areas incur higher unit costs because wage scales are higher, fringe benefits are more expensive, facilities cost more, and the operational problems related to routing, traffic congestion, and traffic hazards tend to drive per pupil costs higher than in suburban and rural areas.

A cost relationship which tends to conflict with one above is the relationship between density of the transported student population and transportation costs per pupil. Though higher prices and other problems in heavily populated areas tend to drive per pupil costs higher, costs per pupil tend to be leavened by the density of transported students. Most studies indicate that an inverse relationship exists between density and costs per pupil, i.e., the greater the density the lower the cost per pupil. Conversely, a greater density usually results in higher costs per mile relative to a low density of transported student population.

The data reported in Table II illustrate the relationships between the density of the transported student population defined (in this study) as miles traveled per student to cost per pupil and cost per mile. Miles traveled per student were obtained by dividing the number of regular miles traveled per day by the number of pupils transported per day. Lower ratios are a proxy to high density; high ratios are a proxy to low density. If previous research is accurate, there should be a positive correlation between miles traveled per pupil and cost per pupil and a negative correlation between miles traveled per pupil and cost per mile.

Generally, higher per pupil costs are associated with a lesser number of students per square mile, which in this study is represented by a lower number of miles per transported pupil. A random sample of 22 South Sakota school districts was selected and the miles per pupil, average cost per pupil and average cost per mile were calculated for each school district. Only those district costs and pupils transported by district owned vehicles were included in the sample to provide some consistency in the variables. One could easily have selected contract operations and costs to show these relationships. Data for district owned operations only are shown in Table 11.

There are exceptions to these relationships described above. The Waubay and Armour school districts are examples of exceptions. Although these are not dramatic exceptions, the Waubay School District or state officials should attempt to determine why this school district's cost per pupil is a little high relative to others with less density. On the other hand, it appears that the Armour School District operates a very efficient transportation program. Its cost per pupil and cost per mile are both low relatively to other school districts with less density. Likely there is good rationale to explain these exceptions and if corrections and improvements can be made to increase the efficiency of the operation then a study of these relationships has been fruitful.

A companion measure as valuable as the miles per pupil variable in its inverse--number of children per mile of bus route. This variable is commonly termed pupil lineal density. The relationships are the same as stated previously. The greater the number of pupils per mile of bus route, the greater the density, the lesser the cost per pupil and the greater the cost per mile. Aggregations of costs and density factors can be determined for one route, several routes by program, one school district, one transportation district, one county, or one state. Again, if a study of the state pupil transportation system should find that this relationship is weak, there may be reason to suspect that a few districts or routes are not operating efficiently. The important consideration is that local and state transportation officials should probe for the weak relationships between lineal density and per pupil costs and then be able to explain the conditions that affect the relationships.

TABLE 11. Relationships Between Miles Per Transported Pupil and Cost Per Pupil and Cost Per Mile for Selected South Dakota School District 1971-72

School District	Miles per P pil	Rank	Cost per Pupil	per Rank	Cost per Mile	Rank
Plankinton	2.22	16	$144.64	18	.363	21
Tuthill Common	6.39	21	260.58	21	.225	3
Elkton	30.00	22	557.28	22	.086	1
Herreid	2.10	14	102.38	13	.271	6
Wakonda	1.71	8	88.33	4	.287	10
McLaughlin	1.77	9	95.43	8	.299	11
Waubay	1.67	7	107.25	14	.358	20
Armour	1.97	12	90.33	5	.255	4
Cresbard	2.75	18	149.90	19	.302	12
Estelline	1.41	3	93.10	6	.367	22
Freeman	2.02	13	102.29	12	.281	8
Arlington	1.44	4	83.52	3	.322	15
Lake Central	1.95	11	96.82	9	.276	7
Montrose	1.22	1	61.78	1	.282	9
Wood	1.43	5	95.14	7	.353	19
Egan	1.59	6	99.12	10	.346	17
Gettysburg	4.07	20	188.02	20	.259	5
Artesian	1.82	10	100.63	11	.306	14
Northwestern	2.14	15	133.15	16	.346	17
Hurley	3.34	19	119.75	15	.198	2
Selby	2.65	17	144.18	17	.302	12
Todd Co.	1.25	2	75.74	2	.338	16

Statistical Relationships: The Pearson Product Moment Correlation was .968 between miles per pupil and cost per pupil and was significant at the .001 level. Correlation between miles per pupil and cost per mile was -.782 and was significant at the .001 level.

The comparison of pupil lineal density with per pupil costs is not a perfect measure but it is one of the better predictors of efficiency. The measure can say little about the efficiency of route patterns, deadhead miles or the dispersion of pupils. The measure's value lies in its use within a given district or state to compare a route or set of routes under the normative operations of a district or state pupil transportation program.

Conclusions and Recommendations

The final section of the report will integrate the findings and discussion presented heretofore with some judgments and recommendations on the State transportation program in South Dakota.

The State of South Dakota has authorized its local school districts to exercise high levels of control over the transportation program. There is an obvious belief in local control and independence of action with respect to the relationship that exists between local school districts and the State. However, this belief must be tempered with the realization that education is primarily a state responsibility and to insure some degree of fiscal equity, to meet program needs and to provide equal educational opportunity, statewide statutes and policies may have to be established to insure the equitable treatment of students and taxpayers.

I. Administration of the Transportation Program

The total dimension of costs and an equitable means of distributing transportation dollars cannot be considered without treating the topic of the economic efficiency of a program. Data indicate that it is less costly for a school district or a state to operate equipment that is owned either by the school district or the State. Repeated studies and research have corroborated this fact and this study's comparison of two cost variables would seem to add credence to that conclusion.

I-A A purchase and lease plan should be implemented whereby either the State or the local district purchases buses outright and either operates or leases the buses to private contractors to maintain and operate over approved routes.

Differences exist between the variables and the reimbursement received by districts which own their own equipment versus the variables and the reimbursement received by districts for private contract operations. An allowance for depreciation costs is one variable which may contribute to cost differences. The State pays an amount equivalent to one-eighth per year of the original vehicle cost to school districts that own their equipment. Contractors undoubtedly include the amortized equipment purchase costs plus any interest costs on borrowed money in the contract bids for bus routes. Amortization and interest costs inevitably result in some difference when district costs of operation are compared with contracted costs of operation. Through purchases and lease-purchase arrangements the school district and/or state may reduce capitalization costs by purchasing buses outright with no amortization schedule.

If the State served as the purchasing agency, considerable savings could result through competitive bids on equipment as requested by local districts.

If school districts served as the purchasing agency, some advantage would be lost because of the lower volume of purchased vehicles and the State would have to reimburse the school district for the cost of the vehicle. The State or school districts could then lease the buses to private firms or individuals on a competitive bid basis to cover those routes the district did not want to operate and manage.

The State should implement this recommendation with a deliberate written plan of action. As vehicles become outdated and as private contracts are terminated, State and/or local districts can implement the purchase-lease system. The program should be phased in, for if the purchase-lease plan were implemented immediately capital costs would be prohibitive.

Other differences between public versus private ownership rest with costs for fixed charges, operating the vehicle, and administration. The costs of insurance, for example, likely are higher for small private contractors than for a large district operation and add to the cost differential between public and private operations. The State is in a more favorable cost position when it can provide insurance coverage under an umbrella plan or can bid a total coverage plan on a statewide basis.

I-B Either the State should administer the insurance program and bid policies on a statewide basis or local districts should re-bid their transportation insurance program in an effort to attract rates more in line with the dollar amount of insurance claims collected.

The data presented earlier in this report which compared total insurance premium costs with total claims collected in the State indicated there were unjustified increases in the insurance premiums paid by local school districts. The dollar amount of claims collected has fluctuated each year but has not risen any appreciable amount over the past four years.

I-C Consideration should be given to the establishment of regional transportation districts under the control and supervision of regional district supervisors. The regional supervisors should be hired jointly by those school districts over which they control transportation operations and the State reimburse local districts for their salaries.

Regional transportation districts should be established only on a basis where time and distance are reasonable in terms of getting to and from a central storage and maintenance facility for ten or more vehicles. In many of the sparsely populated areas of South Dakota the regional district could not be operationalized to any feasible degree, as it would be inefficient to drive to and from a central location each day. The school district would have to continue its reliance on small contract or small district operations. Research has shown that it is economically efficient to operate a central facility for storage and maintenance purposes if the fleet size is ten or more vehicles. Ten vehicles normally will justify the employment of at least one full time mechanic.

The size of the regional district is a much debated topic in those states that employ the regional concept. The size of the district normally depends on the unique responsibilities of the regional supervisor but a region size which contains approximately 7,000 transported pupils or is 2,500 square miles in areas would be rough guidelines as to size. Other unique variables which should be taken into consideration when establishing districts include: number of buses, number and complexity of bus routes, and the time necessary to manage special transportation problems, i.e., unique hazards, traffic congestion, securing and holding competent employees, employee training and gathering and compiling transportation program data.

I-D The State should establish a written policy regarding what does and does not constitute a bus route whose costs are reimbursed according to the State transportation formula.

As the present state statutes regarding pupil transportation programs exist, local school boards are allowed some latitude in their choice of what constitutes regular transportation routes. If the school board decides a curricular-related trip constitutes a regular route, then the trip costs are reimbursable from the State. One immediately apparent problem or question is the consistency between and among local school boards in deciding what routes are justifiable as a reimbursed activity on a regular basis. If there is inconsistency among school boards as to what is judged to be a regular reimbursable route, then the State is reimbursing (from statewide collected revenue) a few school districts where the trip is considered a regular route and other districts are paying the costs from local budgets or activity accounts. Thus, the State may be subsidizing routes in some school districts which may be paid for entirely out of local accounts in other districts.

The trend in recent years has been to reimburse trip costs which in any way relate to transporting children to and from school or which relate to the educational program. A curricular enrichment trip is an example of the latter, however, trips for transporting athletic teams to interscholastic sports contests are not considered to be within the purview of curricular related programs.

II. Revisions in the State Formula for Allocating Transportation Aid

The present State formula for reimbursing local districts is calculated on the basis of 50 percent of approved local transportation costs (district, contract, family, and room and board programs) limited to a maximum of eighteen cents per mile and a maximum State budget of $3 million for reimbursing local districts. A rather comprehensive discussion of the formula provisions was presented earlier in this report. With respect to the specific provisions of the formula the following recommendations are offered.

II-A The eighteen cents per mile limitation was written into the statutes in 1971. If the State wishes to employ the idea of cost limitations it should phrase the statute or policy in such a way as to allow the limitation to fluctuate with prices.

The eighteen cent limitation penalizes those districts in which student population density is high and average costs per mile are high. A policy on cost limitations, if implemented, should be stated in terms of a percentage of costs as determined by the State Department of Public Instruction. For example, if the State DPI determines that the average cost per mile in the State is 40 cents per mile during the 1972-73 school year and the State decides to limit the reimbursement of local programs to 80 percent to actual average costs per mile then 32 cents per mile would be the cost limitation.

II-B The $3 million limitation was written into the State Statutes in 1971. The State should consider removing this limitation and establish the total budget for reimbursing transportation programs on the basis of a percentage of approved costs.

An actual dollar limitation on the State budget for reimbursing local districts for transportation program costs does not permit local districts to plan adequately or make realistic budget estimates since they do not know the amount of total State transportation costs and therefore do not know how many percentage points below the 50 percent level the actual reimbursement will be.

II-C Transportation of children and the costs of transporting children to and from educational-related programs should not be a function of where children live, the wealth of children's parents or the wealth of school districts in which children live but should be a function of the wealth of the State as a whole.

The State variable flat grant for the distribution of transportation aid to local districts takes into consideration the needs of schools according to an approved district cost but does not allow for any differences in measures of wealth among districts. A school district with more than average transportation needs and costs which is relatively poor is at a distinct disadvantage when compared with a district that also has high needs but has a greater level of wealth, regardless of the approach which one selects to measure wealth. The principle of equal access to educational programs with a reasonable degree of revenue burden equity among taxpayers is one that is receiving increased consideration in state formula provisions across the country. The general principle that education should not be a function of family or community wealth but the wealth of the state as a whole is a principle that applies to transportation programs as well.

II-D If the State believes in the concept of equal access to transportation programs and an equitable revenue burden structure, it should consider legislation to reimburse local districts for their transportation programs in the amount of 80 percent of the state approved local transportation costs and also include a provision for local district wealth in the state reimbursement formula.

Many illustrations could be provided to show that attendance centers are arbitrarily located on the basis of availability of site, political pressure, or other factors. Therefore, it is not reasonable to expect the transportation of children to and from an attendance center to be a burden primarily on the family or on the ability of a district as a whole to support a transportation program.

The recommended formula would take the following form:

$$Ai = [1 - (.20 \frac{Yi}{Y})] \quad (Ei)$$

where

Ai = State transportation aid to the ith school district

.20= the approximate local share of approved transportation costs in the state

Yi = the average wealth per pupil in the ith school district

Y = the average wealth per pupil in the state

Ei = the state approved total cost of the transportation program in theith school district

This formula provides that for a constant level of wealth (i.e., any two or more districts with equal wealth per pupil) the percentage of State support for local transportation costs would be the same. The measure of need is allowed to fluctuate within Ei, the state approved total cost of the transportation program in a local school district.

II-E In the event the State should decide to implement recommendation II-B (removing the $3 million limitation) then it should distribute the $3 million to local school districts in a more equitable manner by employing a wealth variable in the formula.

Such a formula would have to be constructed by first determining the amount of total State approved transportation program costs in all districts. The ratio of $3 million to the total state transportation costs would have to be calculated. For example, if the total state transportation costs were $9 million, the ratio of $3 million to $9 million would be .33. Substracting .33 from one would give .67 which would be the value of X in the following formula.

$$Ai = [1 - (X \frac{Yi}{Y})] \quad (Ei)$$

where

Ai = State transportation aid to the ith school district

X = the approximate local share of total approved transportation costs

Yi= the average wealth per pupil in the ith school district

Y = the average wealth per pupil in the state

Ei= the state approved total cost of the transportation program in the ith school district.

The selection of the wealth variable (Yi, Y) used in the above formula is somewhat difficult because of the lack of data on wealth measures. Generally, it is believed that some measure of income per pupil, i.e., adjusted gross income, effective buying income, is the most appropriate measure of the fiscal capacity of a school district or state. Unfortunately most states including South Dakota do not have income data by school district. The most common wealth measure on which there are data is property value per pupil.

II-F The transportation formula should incorporate a weight for the transportation of handicapped children who cannot be transported on regular transportation equipment. The allocation weight factor for handicapped children should be at least 5.00.

II-G Each local school district's entitlement for pupil transportation purposes should be calculated through the use of a power curve on which the cost per pupil day is plotted from the vertical axis and the density per linear mile on the horizontal axis. The formula to be used is $Y=ax^b$ and the district entitlement would be determined by plotting all districts in the state and then using the formula to determine the point of intersect between the curve of best fit and the transportation density of the district.

A district's entitlement would be determined by multiplying its graph adjusted cost by the annual total number of transported days for the district. The actual allocation of funds should be computed using an equalization formula or inclusion in the state's foundation program and funds flow in inverse relationship to each local school district's wealth.

III. Pupil Mileage Limitations

To qualify for State transportation reimbursement, a school district transports a student in grades K-8 who lives more than 2 1/2 miles from school and will reimburse school districts, which at the discretion of local school boards, have decided to transport students in grades 9-12 who live more than 2 1/2 miles from school. The State should consider implementing the following statutory provision.

III-A All students desirous of an education in grades K-12 should be provided transportation services to and from regular education programs and programs related directly to the student's education.

Presently, approximately 90 percent of the school districts in South Dakota provide transportation services to students in grades 9-12. The implication is that those taxpayers in the remaining 10 percent of the districts are subsidizing transportation programs in other districts in the State through their State tax burden and at the same time are personally paying for their own children's transportation without any help from the local school district or from the State. If implemented, this recommendation would assure a reasonable degree of program equity and taxpayer equity in the distribution and burden of transportation program costs.

The trend in many states over the past few years has been to reduce mileage limitations, thus, qualifying more students for transportation and qualifying school districts for more state reimbursement. The real question of qualifying mileage limitations revolves around the extent to which the State wants to provide its citizens and pupils with the service. The trend has been in the direction of lower mileage limitations for younger pupils but this change has resulted in higher transportation costs. The following recommendation is made regarding changes in mileage limitations in South Dakota.

III-B Mileage limitations for reimbursable programs to one mile for children in grades K-6 and to two miles for students in grades 7-12.

An important question for state policy makers and administrators is do they want their young children (grades K-6) to walk 5 miles to and from school each day. This appears to be an extraordinary distance for a young child to walk. Many parents who live less than 2 1/2 miles from school provide transportation for their children to an attendance center which often has been arbitrarily selected by the school district. The recommended distance is more in line with current practice in other states and more defensible in terms of providing equitable transportation services to taxpayers and children.

IV. Provisions for Cost Data and Comparisons

The inadequacies of unit cost data and the lack of comparability among transportation programs on the basis of costs were noted earlier in the report. The products of the process-comparable cost data--should provide officials of the state with better information and data with which to make decisions. The results of more rational decisions are well known--a better structured state transportation system which is more economically efficient and effective in serving the citizens of the state.

After examining transportation data availability and use in South Dakota, the following suggestions are made for the consideration of State officials.

IV-A The transportation Division or Management Services Division of the Department of Public Instruction should consider generating cost per pupil and/or cost per mile data for the following programs, levels, and functional categories.

- Levels - State, County, Transportation District, and School District.
- Programs - Regular, Special, Vocationa-Technical, Summer School and others as deemed necessary.
- Categories - Public children, Nonpublic children, Public owned equipment, Private owned equipment.
- Combinations of the cost units above which it is believed will add an important dimension to the decision-making process regarding transportation programs.

IV-B The State should gather data on the lineal density per bus mile, which when compared with costs per pupil will give some indication of the economic efficiency of a given level, program or category of operation.

This comparison within a school district or transportation district on a route basis is the best indicator devised to give insight into the efficiency of an operation. Cost exceptions can be noted in which there is not a strong negative relationship and hopefully the exception can be explained or changed to reflect a more normal negative relationship.

IV-C All transportation costs are real costs and should be included in unit cost data. Depreciation costs, capital outlay, salaries, maintenance, operation, and insurance are considered factors which influence transportation cost data. As public and private operations are compared on a cost basis, officials should consider imputing some costs to public operations that are otherwise not attributed to public owned vehicles.

V. Driver Training and Safety Records

These two topics are presented together because they are closely related. At present South Dakota has no statute or policy requiring a training course for school bus drivers. Standard 17 was promulgated by the Federal Department

of Transportation and became effective June 6, 1972. Although the Standard 17 requirements may be incorporated into new standard requirements, the content of the 17 standards likely will remain intact in the new guidelines. If so, South Dakota will have to set up a plan for selecting, training and supervising persons whose primary duties involve pupil transportation, including bus drivers.

V-A The State should develop a plan for instituting a one or two day training course for school bus drivers which be required before a person can be fully licensed as a school bus operator.

Short term, probationary licenses could be granted to new drivers until they have had an opportunity to take the training course. Such a course should be offered two or three times a year in disperse geographic regions of the State so drivers do not have to travel great distances to receive course instruction.

V-B State officials should consider the establishment of updating or re-training sessions for those individuals who continue to be employed as bus drivers for over two years.

State laws and transportation policies will be revised and drivers need to be made aware of any additional information that has been generated since their first course. It is suggested that all bus drivers be required to take a four hour refresher course every other year before their driver's license is validated, i.e., third year, fifth year, seventh year, etc., in the same manner that a physical exam is required each year.

V-C The Transportation Section of the Management Services Division along with other appropriate State safety officials should prepare a school bus drivers training manual to be used in conjunction with the training sessions.

As a logical part of an adequate driver training program, the manual will serve as a text for the instructional program and insure some uniformity in course content presented at the training sessions. The manual should be provided to each driver completing the course for his personal use as a reference in the future.

V-D The State should devise and implement a plan for holding semi-annual bus inspections to conform with the federal transportation standards.

The safety records kept on pupil transportation in the State appear to be more adequate than those provided in most states; therefore, there is no specific recommendation regarding safety records. The State should compile

as much information on safety records as is necessary for studying the relationships between various factors such as age, sex, experience, driving conditions, time of accident, location of accident, etc., and accident frequency and severity.

VI. State Transportation Personnel

The Transportation Section of the Management Services Division in the Department of Public Instruction probably has one of the lowest operating budgets of any section in the country. The allocation of funds and number of personnel to this section appear to be inadequate.

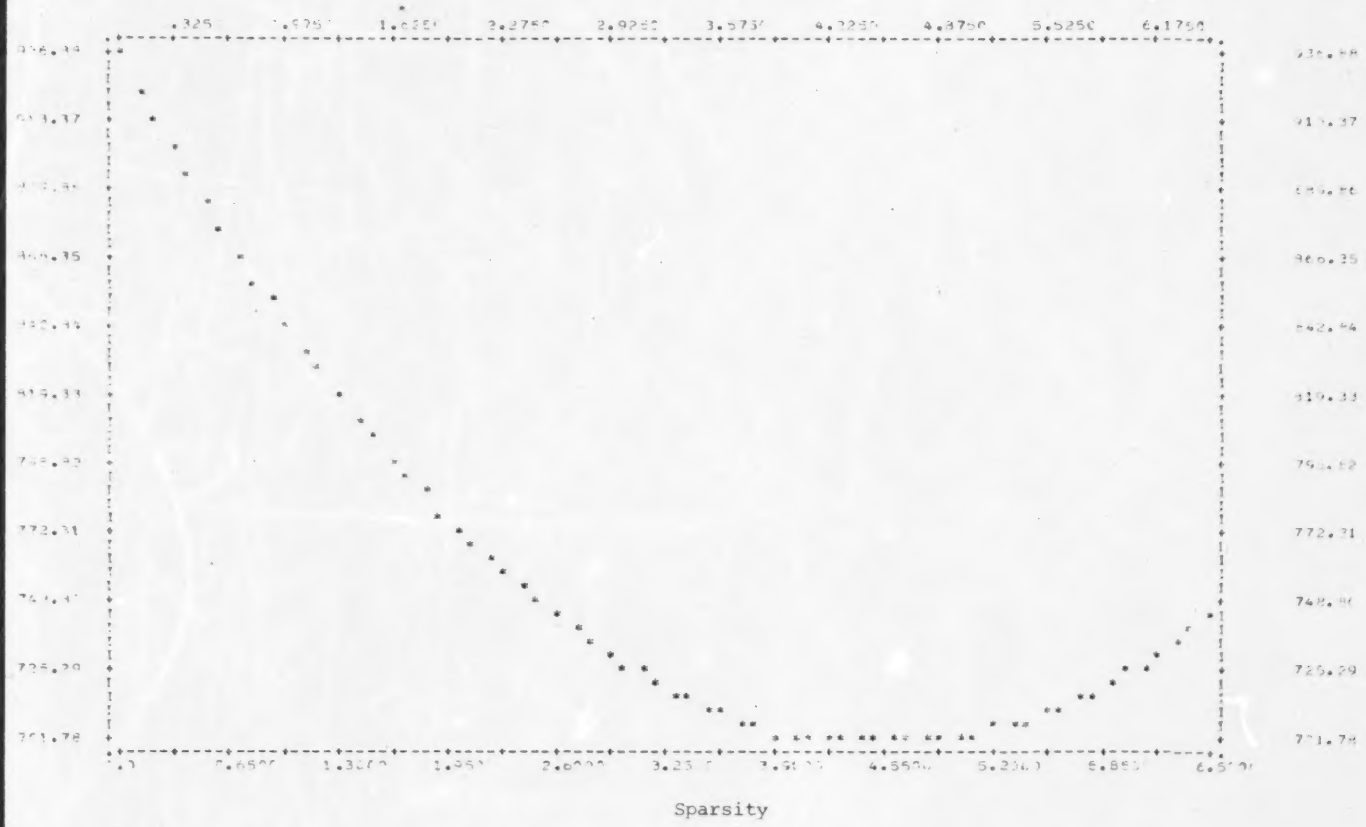
VI-A The State should support the services of a full time State Transportation Director and his duties and responsibilities should be related exclusively to the State pupil Transportation Program.

VI-B The State should consider changing the school bus licensing operation from the office of County Auditor to a more appropriate state agency after studying the effects of such a change.

Presently, the licensing of bus drivers is the responsibility of a County Auditor who assumed some of the duties formerly help by the County Superintendent of Schools. The licensing function is a responsibility which could more appropriately be performed by a person or agency more closely associated with another State safety, protection or licensing operation. The motor vehicle licensing division, for example, would appear to be more suited for the licensing of school bus drivers than the County Auditors.

In conclusion, the recommendations presented in the final section of this report were promulgated with the idea of improving the South Dakota pupil transportation program. Because many recommendations were made, one cannot infer that the present program is inadequate. There are many unique and valuable components inherent in the South Dakota program, but to have discussed the better aspects of the program would not be conducive to making improvements on what are already advantages. Changes and improvements are made by building on an adequate foundation and criticizing and suggesting improvements in what are considered to be present inadequacies.

APPENDIX A. Sparsity Expenditure Graph



Appendix B. Pupil Density, Expenditure Per Pupil (1971-1972), and Sparsity Index for Selected South Dakota Independent School Districts.

* Independent School District	Pupil Density	Expenditure	Index
Alcester	3.1424	$ 756.83	1.0317
Alpena	1.5924	874.53	1.1411
Arlington	2.6415	695.59	1.0585
Armour	3.4027	728.59	1.0209
Artesian	1.2500	796.30	1.1758
Astoria	2.2565	871.18	1.0846
Avon	2.4328	676.16	1.0721
Belle Fourche	1.4997	723.55	1.1501
Beresford	4.3284	662.81	1.0007
Bison	.2650	1,039.05	1.2970
Bonesteel	1.5706	808.15	1.1432
Bowdle	1.1476	728.83	1.1870
Bradley	1.0540	914.86	1.1974
Bristol	1.2351	781.48	1.1774
Britton	2.1516	675.52	1.0926
Burke	1.4728	724.58	1.1528
Canova	1.8926	737.12	1.1138
Canistota	2.7791	685.49	1.0503
Carthage	1.1579	901.84	1.1858
Castlewood	2.7233	676.70	1.0535
Centerville	2.8035	733.58	1.0489
Chamberlain	1.5647	721.68	1.1438
Chester	3.2406	749.58	1.0274
Clark	1.4982	811.75	1.1503
Clear Lake	2.3364	744.45	1.0788
Colman	3.5262	687.48	1.0166
Colome	.9933	773.90	1.2044
Conde	.9451	889.93	1.2100
Corona	2.3230	823.82	1.0798
Corsica	1.9268	756.18	1.1109

Appendix B. (continued)

*Independent School District	Pupil Density	Expenditure	Index
Cresbard	.7827	$ 987.76	1.2294
Custer	.8766	744.27	1.2181
Delmont	1.9299	801.99	1.1106
Dell Rapids	5.0828	695.24	1.0048
De Smet	2.2112	698.16	1.0880
Doland	.9939	852.55	1.2043
Draper	.3638	1,032.84	1.2835
Eagle Butte	.5193	535.20	1.2627
Edgemont	.6389	756.03	1.2473
Egan	2.9035	829.31	1.0434
Elkton	2.6069	699.68	1.0606
Estelline	2.5158	752.68	1.0665
Ethan	2.5714	695.89	1.0629
Eureka	.9608	754.78	1.2082
Fairfax	1.4313	851.26	1.1570
Faulkton	1.1131	681.82	1.1908
Flandreau	3.9988	757.11	1.0047
Florence	1.4820	729.67	1.1519
Forrestburg	.7473	1,114.76	1.2337
Freeman	2.8597	674.54	1.0458
Garretson	6.0823	619.13	1.0389
Gary	2.9077	754.20	1.0432
Geddes	1.3727	872.12	1.1630
Gettysburg	3.2476	659.79	1.0271
Glenham	.8996	988.08	1.2153
Gregory	1.5262	779.17	1.1475
Groton	1.7414	702.26	1.1272
Harrold	.5767	1,096.88	1.2553
Henry	1.6569	801.00	1.1350
Herreid	1.4879	690.23	1.1513

Appendix B. (continued)

*Independent School District	Pupil Density	Expenditure	Index
Hill City	.8138	$ 712.88	1.2256
Hitchcock	1.1684	928.57	1.1847
Hosmer	1.3026	675.86	1.1703
Hot Springs	1.8595	716.95	1.1167
Howard	2.3581	741.20	1.0773
Hudson	4.5430	861.58	1.0000
Hurley	2.7726	844.07	1.0507
Ipswich	1.1570	821.53	1.1859
Irene	2.4980	798.09	1.0677
Iroquois	1.3990	793.89	1.1603
Isabel	.4175	825.48	1.2762
Java	.9234	934.74	1.2125
Kadoka	.3514	896.10	1.2851
Kimball	.9531	742.55	1.2091
Lake Preston	2.5060	864.70	1.0671
Langford	1.4631	765.49	1.1538
Leola	1.1157	712.46	1.1905
Lemmon	.6645	690.61	1.2441
Letcher	1.8304	703.30	1.1192
Marion	4.3320	762.06	1.0007
McIntosh	.4570	958.89	1.2709
McLauglin	.8157	855.16	1.2254
Menno	2.7179	788.62	1.0539
Midland	.3539	1,016.52	1.2848
Miller	1.1791	850.62	1.1835
Montrose	2.7580	658.05	1.0515
Mount Vernon	1.9831	807.94	1.1062
Murdo	.6162	754.64	1.2502
New Effington	1.6867	861.98	1.1322
Newell	.4972	776.05	1.2656

Appendix B. (continued)

*Independent School District	Pupil Density	Expenditure	Index
New Underwood	.7180	$ 750.08	1.2374
Oelrichs	.2098	1,189.20	1.3048
Oldham	1.6585	847.23	1.1349
Parker	4.4702	666.68	1.0001
Parkston	3.9557	754.09	1.0055
Plankinton	1.2812	845.44	1.1725
Platte	1.4815	764.31	1.1520
Pollock	.9106	861.49	1.2140
Ramona	2.2329	851.69	1.0864
Redfield	2.8182	769.24	1.0481
Roscoe	1.0227	965.89	1.2010
Rosholt	2.1262	757.66	1.0946
Roslyn	1.7156	710.06	1.1296
Rutland	1.8157	763.28	1.1205
Salem	3.3262	818.61	1.0239
Scotland	2.8134	863.52	1.0484
Selby	1.3438	820.15	1.1660
Sisseton	3.9225	866.48	1.0061
South Shore	1.2500	830.55	1.1758
Spearfish	4.6798	667.11	1.0003
Spencer	2.6506	874.73	1.0579
Stickney	2.1107	601.01	1.0958
Summit	1.6176	756.03	1.1387
Timberlake	.3529	927.68	1.2849
Tripp	2.5727	667.84	1.0628
Tulare	1.1145	848.09	1.1906
Veblen	1.1641	881.39	1.1852
Viborg	3.7598	779.38	1.0098
Wakonda	2.1355	912.93	1.0939
Wall	.3592	862.70	1.2841

Appendix B. (continued)

*Independent School District	Pupil Density	Expenditure	Index
Warner	2.1017	$ 793.93	1.0965
Waubay	2.6273	753.96	1.0594
Waverly	1.9737	795.06	1.1069
Webster	2.8883	643.44	1.0442
Wessington	1.0890	968.05	1.1935
Wessington Springs	1.0497	899.49	1.1979
White Lake	1.3790	778.86	1.1623
White River	.4893	993.78	1.2667
Willow Lake	1.3105	765.97	1.1694
Wilmot	2.3985	779.51	1.0744
Winner	1.4707	698.37	1.1530
Wolsey	1.4594	882.52	1.1542
Wood	.4367	1,053.34	1.2736
Woonsocket	2.9292	717.11	1.0421

* Independent districts with a pupil sparsity factor above 5.10 have not been included in this list and would have an index of 1.00.

END

DEPT. OF HEW

NAT'L INSTITUTE OF EDUCATION

ERIC

DATE FILMED

MAY 21 75